**GO** REGULATOR

# Vaporizing Pressure Regulators

## Index



pressure regulators


**GO Regulator**
405 Centura Court • PO Box 4866 (29305) • Spartanburg, SC 29303
Phone (864) 574-7966 Fax (864) 574-5608
www.goreg.com • sales@goreg.com

# GO REGULATOR

# HPR-2 Series

Steam Heated Regulators

## *Introduction*

The HPR-2 Series heated pressure regulator is designed to supply heat to samples entering instrumentation systems. It can be used to preheat liquids, to prevent condensation of gases or to vaporize liquids prior to gas analysis.

The modular design of the HPR-2 consists of heat exchanger and pressure control sections. The pressure control section is patterned after the time-proven design of the PR-1 pressure reducing regulator and provides the same excellent outlet pressure stability. The heat exchanger section is made up of a body and heat exchange element. The heat exchange element uses GO Regulator's unique spiral-wrapped screen as the heat exchanger surface. This screen has up to 100 square inches of heat transfer area and precise design forces all sample flow to pass through the element.

## Typical Applications

***Analytical process sample conditioning systems:***

- Petrochemical refineries
- Chemical production facilities
- Pilot plants (chemical & petrochemical)
- LNG loading and off-loading points
- Natural gas pipeline sampling

## Technical Data

| | |
|---|---|
| **CONSTRUCTION** | 316L stainless steel |
| **OUTLET PRESSURES** | 0–10, 0–25, 0–50, 0–100, 0–250, and 0–500 psig |
| **INLET PRESSURE** | up to 6000 psig at 380° F (193° C) |
| **OPERATING TEMPERATURE** | up to 550° F (285° C) |
| **$C_V$ COEFFICIENTS** | 0.06, 0.025, 0.2 |
| **INLET CONNECTIONS** | ⅛″ FNPT |
| **OUTLET CONNECTIONS** | ¼″ FNPT |

## Features & Benefits

- Optional Hastelloy® C and Monel®
- Electropolished body with better than 25 Ra finish in diaphragm cavity for an optimal sealing surface
- Bubble-tight shutoff
- Modular pressure control and heat exchanger assemblies allow for easy maintenance.
- Unique spiral-wrapped heat exchange element provides up to 100 square inches of heat transfer area.

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# HPR-2 Series

## How to Order

**Standard items in bold**

**H2 – 1 Z 5 5 Q 3 C 1 1 1 4**

***BODY MATERIAL***
- **1 316L stainless steel**
- **4** Monel®

***PORT CONFIGURATION***
- **Z One inlet port, one outlet port**

For more configurations, see page 32

***TEMPERATURE RANGE / HEATING TYPE***
- **5 Steam**

***HEATER WATTAGE***
- **5 Steam**

***SEAT MATERIAL***
- **A** Tefzel®
- **B** CF Teflon®
- **C** Polyimide
- **H** PCTFE (formerly Kel-F®)
- **Q** PEEK™

***FLOW COEFFICIENT (Cv)***
- **3 0.06**

***OPTIONS***
- **4** 6000 psig inlet steam heated (1-pc assembly)

***CAP ASSEMBLY***
- **1 Tamper-proof, standard, stainless steel**

***HEATER BLOCK PORTING***
- **1 Standard block**
- **2** Extra outlet block

For more blocks, see pages 34–35

***HEATER BLOCK TYPE***
- **1 Steam**

***OUTLET RANGE***
- **C** 0–10 psig
- **D** 0–25 psig
- **E** 0–50 psig
- **G** 0–100 psig
- **I** 0–250 psig
- **J** 0–500 psig

## Maximum Temperature & Operating Inlet Pressures

**HPR-2 Steam 2-piece Assembly**
(Heater block and regulator body separate)

| SEAT MATERIAL | MAXIMUM PRESSURE | @ | MAXIMUM OPERATING INLET PRESSURE |
|---|---|---|---|
| Tefzel® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
| | 176° F to 300° F (80° C to 148° C) | @ | 1000 psig (6.90 MPa) |
| | 301° F to 380° F (148° C to 193° C) | @ | 400 psig (2.76 MPa) |
| High density Teflon® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
| | 176° F to 300° F (80° C to 148° C) | @ | 1000 psig (6.90 MPa) |
| | 301° F to 380° F (148° C to 193° C) | @ | 400 psig (2.76 MPa) |
| PCTFE (formerly Kel-F®) | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |
| Polyimide | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |
| PEEK™ | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |

**HPR-2 Steam 1-piece Assembly**
(Integral heater block and regulator)

| SEAT MATERIAL | MAXIMUM PRESSURE | @ | MAXIMUM OPERATING INLET PRESSURE |
|---|---|---|---|
| Tefzel® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
| | 176° F to 300° F (80° C to 148° C) | @ | 1000 psig (6.90 MPa) |
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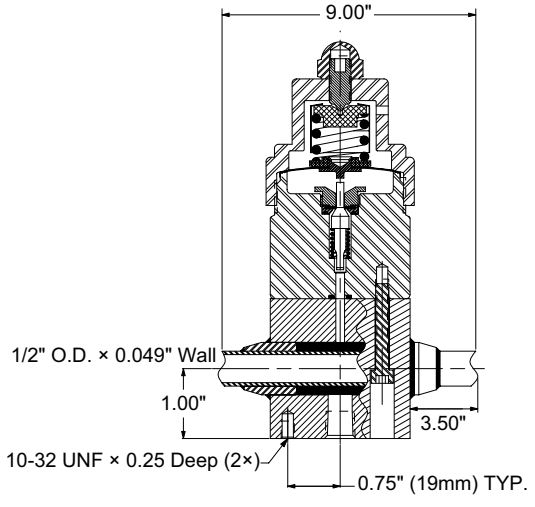
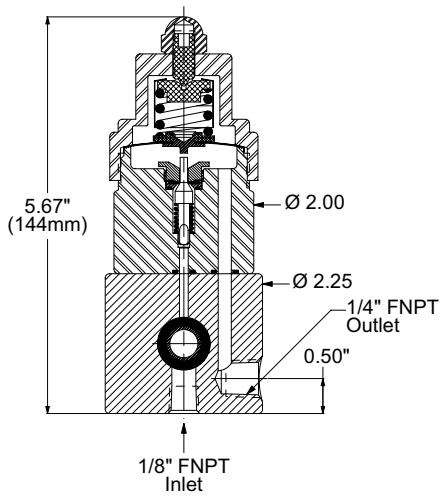
| PCTFE (formerly Kel-F®) | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |
| Polyimide | Up to 380° F (193° C) | @ | 6000 psig (24.82 MPa) |
| PEEK™ | Up to 380° F (193° C) | @ | 6000 psig (24.82 MPa) |

## Outline & Mounting Dimensions



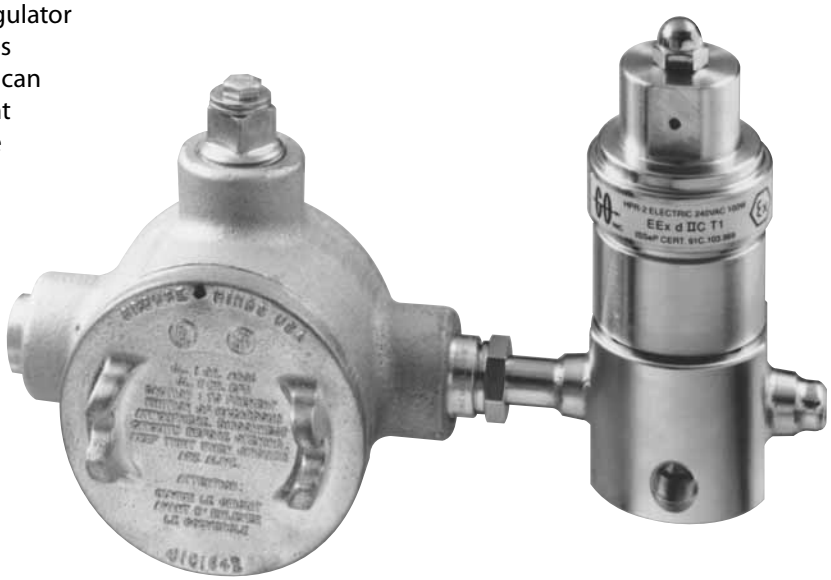
# GO REGULATOR

# HPR-2 Series

Electrically Heated Regulators

## *Introduction*

The HPR-2 Series heated pressure regulator is designed to supply heat to samples entering instrumentation systems. It can be used to preheat liquids, to prevent condensation of gases or to vaporize liquids prior to gas analysis.




The modular design of the HPR-2 consists of heat exchanger and pressure control sections. The pressure control section is patterned after the time proven design of the PR-1 pressure reducing regulator and provides the same excellent outlet pressure stability. The heat exchanger section is made up of a body and heat exchange element. The heat exchange element uses GO Regulator's unique spiral wrapped screen as the heat exchange surface. This screen has up to 100 square inches of heat transfer area and precise design forces all sample flow to pass through the element.

The HPR-2 Series of vaporizing pressure reducing regulators are both CSA and ATEX approved. The electrical components of this unit are securely housed in a Class A, B, C, D condulet assuring that there is always an adequate flame path between the environment and the controller. Safety considerations can be further enhanced by using the optional TCO (Thermal Cut Out) heater cartridge and proportional controller. These features enable the unit to boast a T3 rating with 150 watts of power.

## Typical Applications

***Analytical process sample conditioning systems:***

- Petrochemical refineries
- Chemical production facilities
- Pilot plants (chemical & petrochemical)
- LNG loading and off-loading points
- Natural gas pipeline sampling

## Technical Data

| | |
|---|---|
| **CONSTRUCTION** | 316L stainless steel |
| **OUTLET PRESSURES** | 0–10, 0–25, 0–50, 0–100, 0–250, and 0–500 psig |
| **INLET PRESSURE** | up to 6000 psig at 380° F (193° C) |
| **HEATING CAPACITY RANGES (IN WATTS)** | 40, 50, 100, and 150 |
| **$C_V$ COEFFICIENTS** | 0.06, 0.025, 0.2 |
| **CERTIFICATIONS** | CSA certification # LR-82566-5<br>ATEX Directive 94/9/EC<br>Certification # TRL03ATEX11001X |

## Features & Benefits

- Optional Hastelloy® C and Monel®
- Electropolished body with better than 25 Ra finish in diaphragm cavity for an optimal sealing surface
- Bubble-tight shutoff
- Modular pressure control and heat exchanger assemblies for easy maintenance
- Unique spiral wrapped heat exchange element provides up to 100 square inches of heat transfer area.
- Available in 120VAC or 240VAC
- Optional TCO heating cartridge and proportional controller

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pressure regulators

# HPR-2 Series

## How to Order

**Standard items in bold**

**H2 – 4 Z 3 3 H 3 G 4 1 4 7**

***BODY MATERIAL***
- **1** **316L stainless steel**
- **4** Monel®

***PORT CONFIGURATION***
- **Z** **One inlet port, one outlet port**

For more configurations, see page 32

***TEMP. RANGE/HEATING TYPE***
- **1** 55° F–85° F
- **2** **75° F–175° F**
- **3** **130° F–300° F**
- **4** 260° F–380° F

***HEATER WATTAGE***
- **1** 40W
- **2** 50W
- **3** **100W**
- **4** 150W

***SEAT MATERIAL***
- **A** Tefzel®
- **B** CF Teflon®
- **C** Polyimide
- **H** PCTFE (formerly Kel-F®)
- **Q** PEEK™

***FLOW COEFFICIENT (Cv)***
- **3** **0.06**

***OUTLET RANGE***
- **C** 0–10 psig
- **D** 0–25 psig
- **E** 0–50 psig
- **G** 0–100 psig
- **I** 0–250 psig
- **J** 0–500 psig

***HEATER BLOCK TYPE***
- **3** **120 VAC**
- **4** **240 VAC**
- **5** No electronics
- **8** Proportional 120 VAC
- **9** Proportional 240 VAC

***HEATER BLOCK PORTING***
- **1** **Standard block**
- **2** Extra outlet block

For more blocks, see pages 34–35

***CAP ASSEMBLY***
- **1** **Tamper-proof, standard, stainless steel**
- **4** Tamper-proof, panel mount, stainless steel

***OPTIONS***
- **1** TCO thermistor
- **5** 6000 psig inlet w/TCO thermistor (1-pc assy.)
- **7** 6000 psig inlet w/standard thermistor (1-pc assy.)
- **B** TCO thermistor w/ Teflon®/Inconel® diaphragm

## Maximum Temperature & Operating Inlet Pressures

**HPR-2 Electric 2-piece Assembly**
(Heater block and regulator body separate)

| SEAT MATERIAL | MAXIMUM PRESSURE | @ | MAXIMUM OPERATING INLET PRESSURE |
|---|---|---|---|
| Tefzel® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
| | 176° F to 300° F (80° C to 148° C) | @ | 1000 psig (6.90 MPa) |
| | 301° F to 380° F (148° C to 193° C) | @ | 400 psig (2.76 MPa) |
| High density Teflon® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
| | 176° F to 300° F (80° C to 148° C) | @ | 1000 psig (6.90 MPa) |
| | 301° F to 380° F (148° C to 193° C) | @ | 400 psig (2.76 MPa) |
| PCTFE (formerly Kel-F®) | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |
| Polyimide | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |
| PEEK™ | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |

**HPR-2 Electric 1-piece Assembly**
(Integral heater block and regulator)

| SEAT MATERIAL | MAXIMUM PRESSURE | @ | MAXIMUM OPERATING INLET PRESSURE |
|---|---|---|---|
| Tefzel® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
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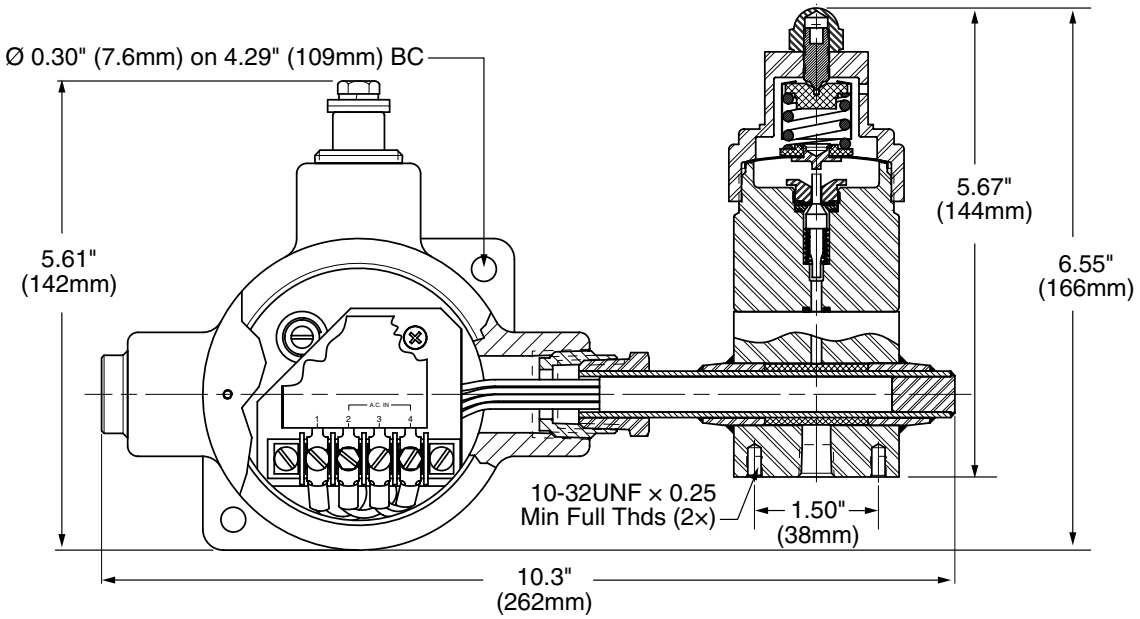
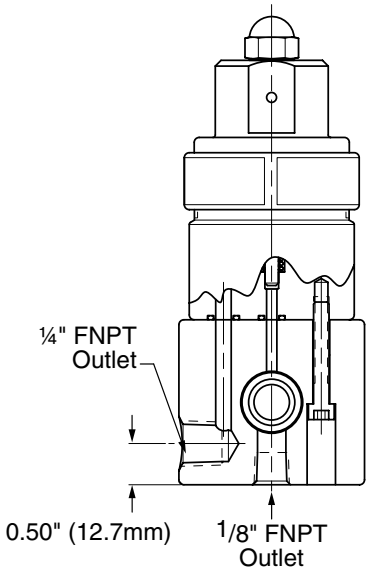
# HPR-2 Series

## *Outline & Mounting Dimensions*



**GO REGULATOR**

# HPR-2XW Series

Steam Heated Pressure Regulator

## *Introduction*

The HPR-2XW Series heated pressure regulator is designed to supply heat to samples entering instrumentation systems. It can be used to preheat liquids, to prevent condensation of gases or to vaporize liquids prior to gas analysis.

The modular design of the HPR-2XW consists of heat exchanger and pressure control sections. The pressure control section is patterned after the time proven design of the PR-1 pressure reducing regulator and provides the same excellent outlet pressure stability. The heat exchanger section is made up of a body and heat exchange element. The heat exchange element uses GO Regulator's unique spiral wrapped screen as the heat exchange surface. This screen has up to 100 square inches of heat transfer area and precise design forces all sample flow to pass through the element.

Completing this modular design is the incorporation of a removable heat exchange unit. This allows the user to remove and clean or replace the exchanger. This is especially useful when heating dirty liquids or liquids that polymerize and clog the heat exchange screen.

## Typical Applications

***Analytical process sample conditioning systems:***

- Petrochemical refineries
- Chemical production facilities
- Pilot plants (chemical & petrochemical)
- LNG loading and off-loading points
- Natural gas pipeline sampling

## Technical Data

| | |
|---|---|
| **CONSTRUCTION** | 316L stainless steel |
| **OUTLET PRESSURES** | 0–10, 0–25, 0–50, 0–100, 0–250, and 0–500 psig |
| **INLET PRESSURE** | up to 6000 psig at 380° F (193° C) |
| **OPERATING TEMPERATURE** | up to 550° F (285° C) |
| **$C_V$ COEFFICIENTS** | 0.06, 0.025, 0.2 |
| **INLET CONNECTIONS** | ⅛″ FNPT |
| **OUTLET CONNECTIONS** | ¼″ FNPT |

## Features & Benefits

- Optional Hastelloy® C and Monel®
- Electropolished body with better than 25 Ra finish in diaphragm cavity for an optimal sealing surface
- Bubble-tight shutoff
- Modular pressure control and heat exchanger assemblies for easy maintenance
- Unique spiral wrapped heat exchange element provides up to 100 square inches of heat transfer area.

pressure regulators

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# HPR-2XW Series

## How to Order

**Standard items in bold**

**H2 – 1 Z 5 5 Q 3 I 2 Z 1 4**

***BODY MATERIAL***
- **1 316L stainless steel**
- **4** Monel®

***PORT CONFIGURATIONS***
- **Z Standard**

For more configurations, see page 32

***TEMPERATURE RANGE / HEATING TYPE***
- **5 Steam**

***HEATER WATTAGE***
- **5 Steam**

***SEAT MATERIAL***
- **A** Tefzel®
- **B** CF Teflon®
- **C** Polyimide
- **H** PCTFE (formerly Kel-F® 81)
- **Q** PEEK™

***FLOW COEFFICIENT (Cv)***
- **3 0.06**

***OUTPUT RANGE***
- **C** 0–10 psig
- **D** 0–25 psig
- **E** 0–50 psig
- **G** 0–100 psig
- **I** 0–250 psig
- **J** 0–500 psig

***HEATER BLOCK TYPE***
- **2 Steam, HPR-2XW**

***HEATER BLOCK PORTING***
- **1 Standard block**
- **2** Extra outlet block

For more blocks, see pages 34–35

***CAP ASSEMBLY***
- **1 Tamper-proof, standard, stainless steel**

***OPTIONS***
- **4** 6000 psig inlet steam heated (1-pc assy.)

## Maximum Temperature & Operating Inlet Pressures

**HPR-2XW Steam 2-piece Assembly**

(Heater block and regulator body separate)

| SEAT MATERIAL | MAXIMUM PRESSURE | @ | MAXIMUM OPERATING INLET PRESSURE |
|---|---|---|---|
| Tefzel® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
| | 176° F to 300° F (80° C to 148° C) | @ | 1000 psig (6.90 MPa) |
| | 301° F to 380° F (148° C to 193° C) | @ | 400 psig (2.76 MPa) |
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| PCTFE (formerly Kel-F®) | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |
| Polyimide | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |
| PEEK™ | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |

**HPR-2XW Steam 1-piece Assembly**

(Integral heater block and regulator)

| SEAT MATERIAL | MAXIMUM PRESSURE | @ | MAXIMUM OPERATING INLET PRESSURE |
|---|---|---|---|
| Tefzel® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
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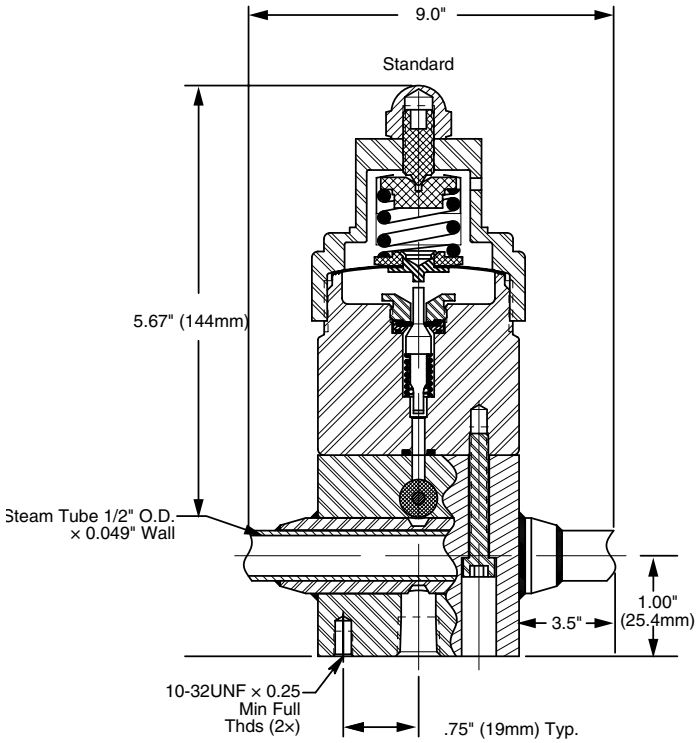
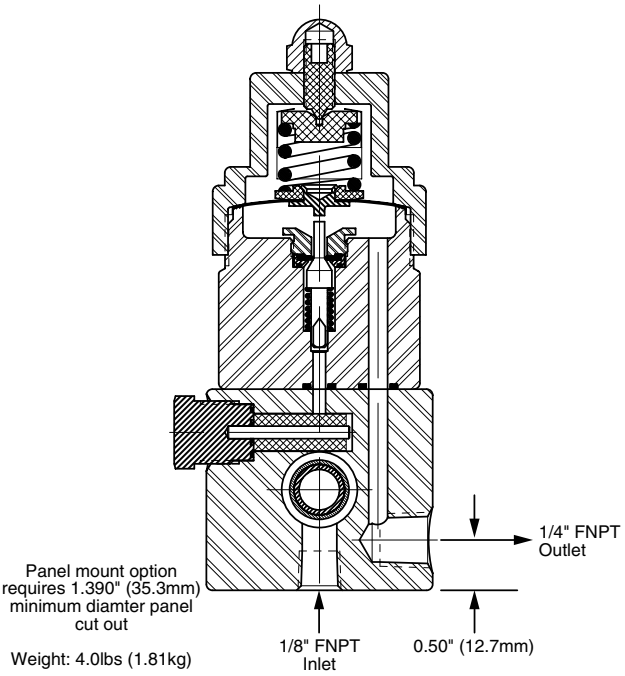
# HPR-2XW Series

## *Outline & Mounting Dimensions*



# GO REGULATOR

# HPR-2XW Series

Electrically Heated Pressure Regulator

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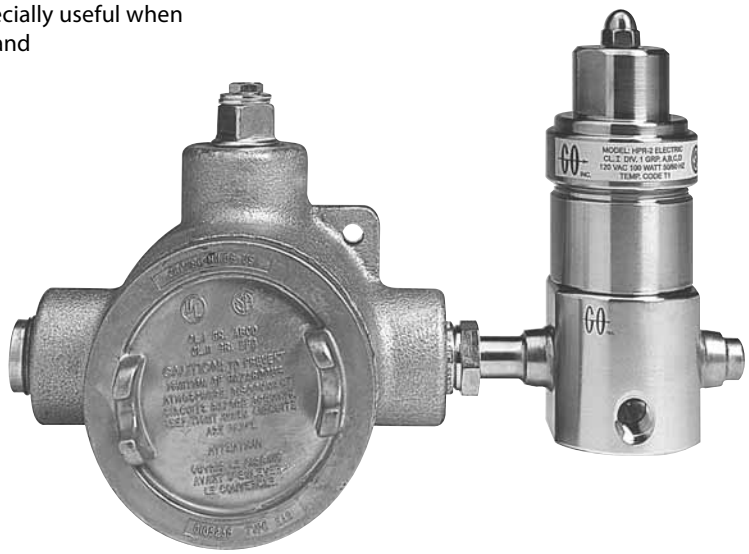
The HPR-2 Series of vaporizing pressure reducing regulators are both CSA and ATEX approved. The electrical components of this unit are securely housed in a Class A,B,C,D condulet assuring that there is always an adequate flame path between the environment and the controller. Safety considerations can be further enhanced by using the optional TCO (Thermal Cut Out) heater cartridge and proportional controller. These features enable the unit to boast a T3 rating with 150 watts of power.



## Typical Applications

***Analytical process sample conditioning systems:***

- Petrochemical refineries
- Chemical production facilities
- Pilot plants (chemical & petrochemical)
- LNG loading and off-loading points
- Natural gas pipeline sampling

## Technical Data

| | |
|---|---|
| **CONSTRUCTION** | 316L stainless steel |
| **OUTLET PRESSURES** | 0–10, 0–25, 0–50, 0–100, 0–250, and 0–500 psig |
| **OPERATING TEMPERATURE** | up to 380° F (193° C) |
| **HEATING CAPACITY RANGES (IN WATTS)** | 40, 50, 100, and 150 |
| **$C_V$ COEFFICIENTS** | 0.06, 0.025, 0.2 |
| **CERTIFICATIONS** | CSA certification # LR-82566-5<br>ATEX Directive 94/9/EC<br>Certification # TRL03ATEX11001X |

## Features & Benefits

- Optional Hastelloy® C & Monel®
- Electropolished body with better than 25 Ra finish in diaphragm cavity for an optimal sealing surface
- Bubble-tight shutoff
- Modular pressure control and heat exchanger assemblies for easy maintenance
- Unique spiral wrapped heat exchange element provides up to 100 square inches of heat transfer area.
- Available in 120VAC or 240VAC
- Optional TCO heating cartridge and proportional controller

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# HPR-2XW Series

## How to Order

**Standard items in bold**

**H2 – 1 Z 2 3 C 3 E 6 1 1 7**

### BODY MATERIAL
- **1 316L stainless steel**
- **4** Monel®

### PORT CONFIGURATION
- **Z One inlet port, one outlet port**

For more configurations, see page 32

### TEMPERATURE RANGE / HEATING TYPE
- **1** 55° F to 85° F
- **2 75° F to 175° F**
- **3 130° F to 300° F**
- **4** 260° F to 380° F

### HEATER WATTAGE
- **1** 40W
- **2** 50W
- **3 100W**
- **4** 150W

### SEAT MATERIAL
- **A** Tefzel®
- **B** CF Teflon®
- **C** Polyimide
- **H** PCTFE (formerly Kel-F®)
- **Q** PEEK™

### FLOW COEFFICIENT (Cv)
- **3 0.06**

### OUTLET RANGE
- **C** 0–10 psig
- **D** 0–25 psig
- **E** 0–50 psig
- **G** 0–100 psig
- **I** 0–250 psig
- **J** 0–500 psig

### HEATER BLOCK TYPE
- **6 120 VAC, HPR-2XW**
- **7 240 VAC, HPR-2XW**
- **0** Proportional 120 VAC, HPR-2XW
- **A** Proportional 240 VAC, HPR-2XW

### HEATER BLOCK PORTING
- **1 Standard block**
- **2** Extra outlet block

For more blocks, see pages 34–35

### CAP ASSEMBLY
- **1 Tamper-proof, standard, stainless steel**

### OPTIONS
- **1** TCO thermistor
- **5** 6000 psig inlet w/TCO thermistor (1-pc assy.)
- **6** 6000 psig inlet w/standard thermistor (1-pc assy.)
- **B** TCO thermisor w/ Teflon®/Inconel® diaphragm

## Maximum Temperature & Operating Inlet Pressures

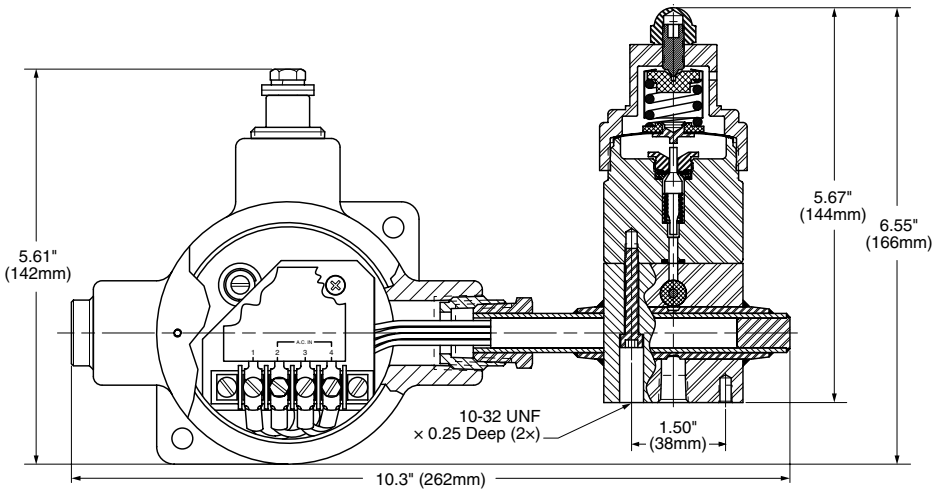
**HPR-2XW Electric 2-piece Assembly**
(Heater block and regulator body separate)

| SEAT MATERIAL | MAXIMUM PRESSURE | @ | MAXIMUM OPERATING INLET PRESSURE |
|---|---|---|---|
| Tefzel® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
| | 176° F to 300° F (80° C to 148° C) | @ | 1000 psig (6.90 MPa) |
| | 301° F to 380° F (148° C to 193° C) | @ | 400 psig (2.76 MPa) |
| High density Teflon® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
| | 176° F to 300° F (80° C to 148° C) | @ | 1000 psig (6.90 MPa) |
| | 301° F to 380° F (148° C to 193° C) | @ | 400 psig (2.76 MPa) |
| PCTFE (formerly Kel-F®) | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |
| Polyimide | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |
| PEEK™ | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |

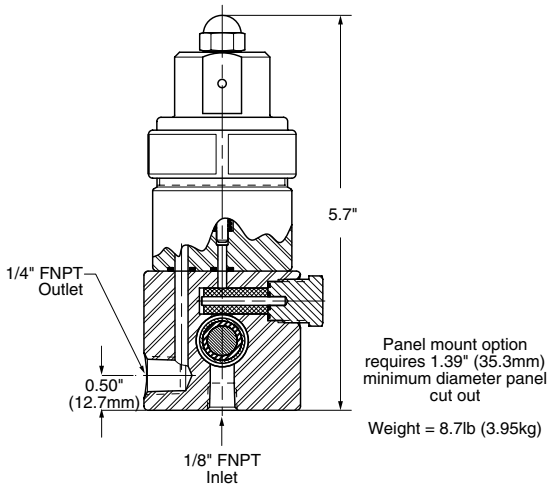
**HPR-2XW Electric 1-piece Assembly**
(Integral heater block and regulator)

| SEAT MATERIAL | MAXIMUM PRESSURE | @ | MAXIMUM OPERATING INLET PRESSURE |
|---|---|---|---|
| Tefzel® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
| | 176° F to 300° F (80° C to 148° C) | @ | 1000 psig (6.90 MPa) |
| | 301° F to 380° F (148° C to 193° C) | @ | 400 psig (2.76 MPa) |
| High density Teflon® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
| | 176° F to 300° F (80° C to 148° C) | @ | 1000 psig (6.90 MPa) |
| | 301° F to 380° F (148° C to 193° C) | @ | 400 psig (2.76 MPa) |
| PCTFE (formerly Kel-F®) | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |
| Polyimide | Up to 380° F (193° C) | @ | 6000 psig (24.82 MPa) |
| PEEK™ | Up to 380° F (193° C) | @ | 6000 psig (24.82 MPa) |

## *Maximum Temperature & Operating Inlet Pressures*




**Panel Mount Option**



**GO REGULATOR**

# CV Series Cylinder Vaporizer

Electrically Heated Two-stage Pressure Regulators

## *Introduction*

The Cylinder Vaporizer electrically heated pressure regulator is designed to supply heat to samples entering instrumentation systems. It can be used to preheat liquids, to prevent condensation of gases or to vaporize liquids prior to gas analysis.

The design of the CV Series consists of heat exchanger and pressure control sections. The pressure control sections are patterned after the time-proven design of the CYL-20 Two-Stage Pressure Reducing Regulator and provides the same excellent outlet pressure stability. The heat exchange element uses GO Regulator's unique spiral wrapped screen as the heat exchange surface. This screen has up to 100 square inches of heat transfer area and precise design forces all sample flow to pass through the element.

The Cylinder Vaporizer Series of vaporizing pressure reducing regulators are ATEX approved. The electrical components of this unit are securely housed in a Class A, B, C, D condulet assuring that there is always an adequate flame path between the environment and the controller. Safety considerations can be further enhanced by using the optional TCO (Thermal Cut Out) heater cartridge and proportional controller. These features enable the unit to boast a T3 rating with 150 watts of power.

## Typical Applications

***Analytical process sample conditioning systems:***

- Petrochemical refineries
- Chemical production facilities
- Pilot plants (chemical & petrochemical)
- LNG loading and off-loading points
- Natural gas pipeline sampling

## Technical Data

| | |
|---|---|
| **CONSTRUCTION** | 316L stainless steel |
| **OUTLET PRESSURES** | 0–10, 0–25, 0–50, 0–100, 0–250, and 0–500 psig |
| **OPERATING TEMPERATURE** | up to 550° F (285° C) |
| **HEATING CAPACITY RANGES (IN WATTS)** | 40, 50, 100, and 150 |
| **$C_V$ COEFFICIENTS** | 0.06, 0.025, 0.2 |
| **CERTIFICATIONS** | ATEX Directive 94/9/EC Certification # TRL03ATEX11001X |

## Features & Benefits

- Hastelloy® C and Monel® optional
- Electropolished body with better than 25 Ra finish in diaphragm cavity for an optimal sealing surface
- Bubble-tight shutoff
- Unique spiral wrapped heat exchange element provides up to 100 square inches of heat transfer area.
- Available in 120VAC or 240VAC
- Optional TCO heating cartridge and proportional controller

*pressure regulators*

**GO Regulator**
405 Centura Court • PO Box 4866 (29305) • Spartanburg, SC 29303
Phone (864) 574-7966 Fax (864) 574-5608
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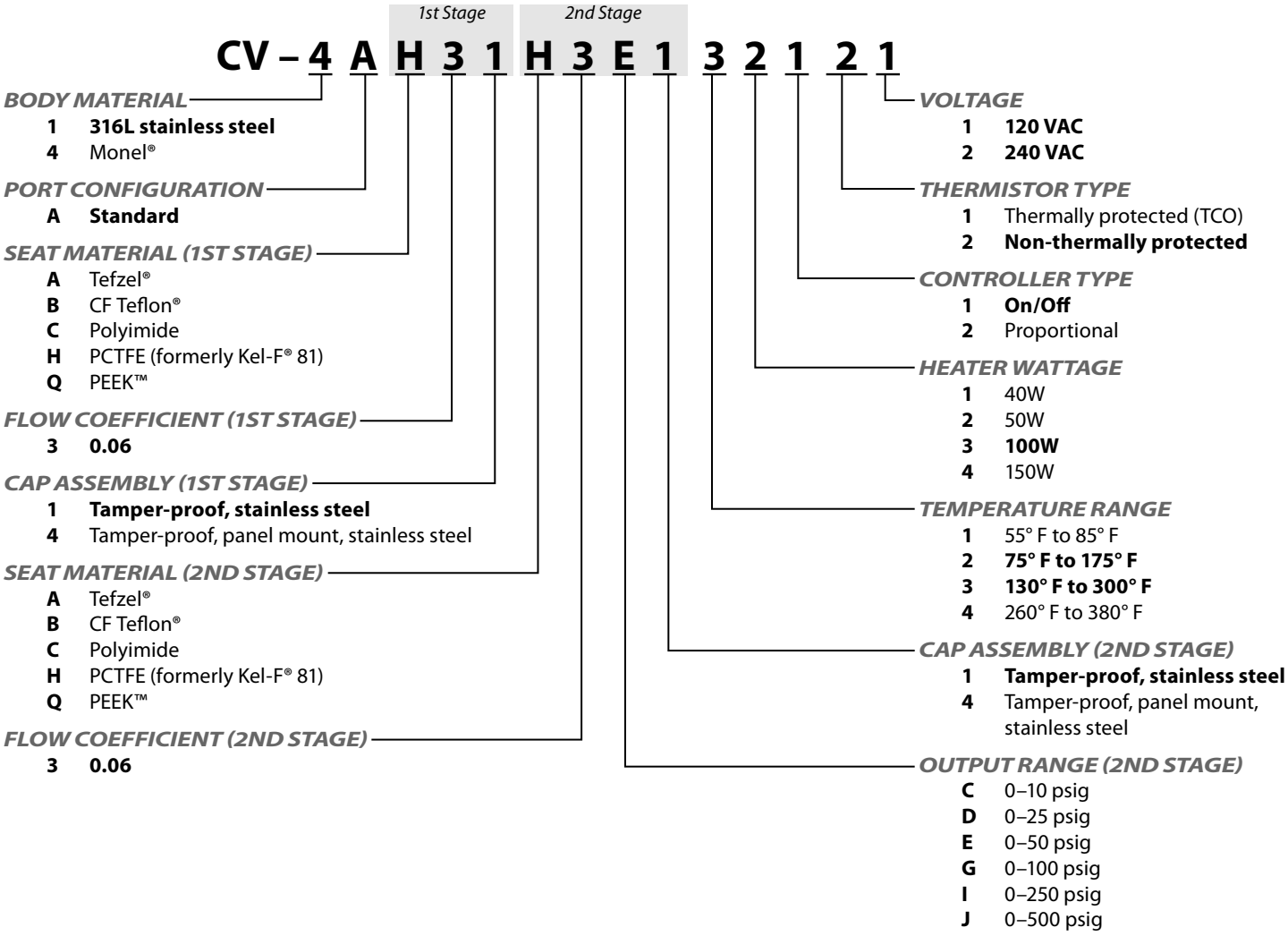
# CV Series Cylinder Vaporizer

## How to Order

**Standard items in bold**

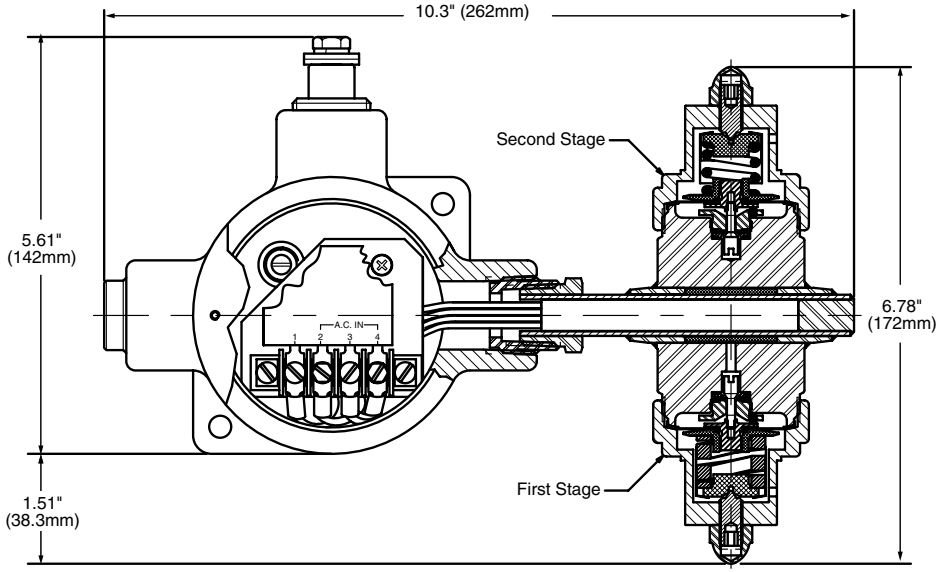


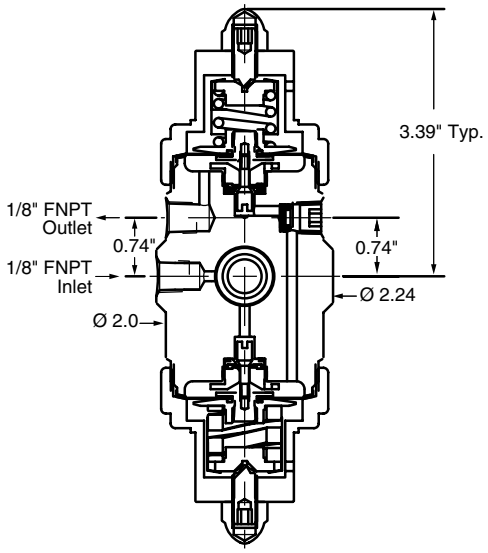

## Maximum Temperature & Operating Inlet Pressures

| SEAT MATERIAL | MAXIMUM PRESSURE | @ | MAXIMUM OPERATING INLET PRESSURE |
|---|---|---|---|
| Tefzel® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
| | 176° F to 300° F (80° C to 148° C) | @ | 1000 psig (6.90 MPa) |
| | 301° F to 380° F (148° C to 193° C) | @ | 400 psig (2.76 MPa) |
| High density Teflon® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
| | 176° F to 300° F (80° C to 148° C) | @ | 1000 psig (6.90 MPa) |
| | 301° F to 380° F (148° C to 193° C) | @ | 400 psig (2.76 MPa) |
| PCTFE (formerly Kel-F®) | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |
| Polyimide | Up to 380° F (193° C) | @ | 6000 psig (41.37 MPa) |
| PEEK™ | Up to 380° F (193° C) | @ | 6000 psig (41.37 MPa) |

# CV Series Cylinder Vaporizer

## *Outline and Mounting Dimensions*



**GO** REGULATOR

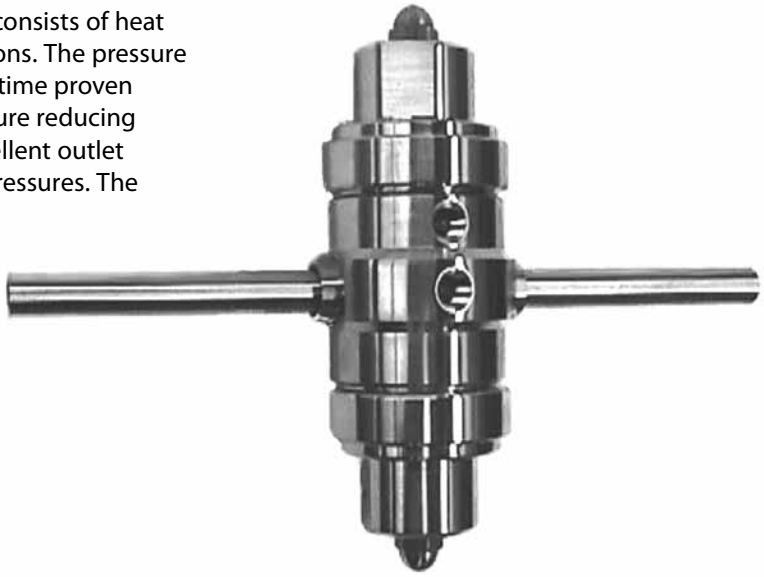
# CV Series Cylinder Vaporizer

Steam Heated Two-stage Pressure Regulators

## *Introduction*

The Cylinder Vaporizer Series Heated Pressure Regulator is designed to supply heat to samples entering instrumentation systems. It can be used to preheat liquids, to prevent condensation of gases or to vaporize liquids prior to gas analysis.

The design of the Cylinder Vaporizer consists of heat exchanger and pressure control sections. The pressure control section is patterned after the time proven design of the CYL-20 two-stage pressure reducing regulator and provides the same excellent outlet pressure stability with varying inlet pressures. The heat exchange element uses GO Regulator's unique spiral wrapped screen as the heat exchange surface. This screen has up to 100 square inches of heat transfer area and precise design forces all sample flow to pass through the element.



## Typical Applications

***Analytical process sample conditioning systems:***

- Petrochemical refineries
- Chemical production facilities
- Pilot plants (chemical & petrochemical)
- LNG loading and off-loading points
- Natural gas pipeline sampling

## Features & Benefits

- Optional Hastelloy® C and Monel®
- Electropolished body with better than 25 Ra finish in diaphragm cavity for an optimal sealing surface
- Bubble-tight shutoff
- Unique spiral wrapped heat exchange element provides up to 100 square inches of heat transfer area.

## Technical Data

| | |
|---|---|
| **CONSTRUCTION** | 316L stainless steel |
| **OUTLET PRESSURES** | 0–10, 0–25, 0–50, 0–100, 0–250, and 0–500 psig |
| **OPERATING TEMPERATURE** | up to 550° F (285° C) |
| **$C_V$ COEFFICIENTS** | 0.06, 0.025, 0.2 |

pressure regulators

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www.goreg.com • sales@goreg.com

# CV Series Cylinder Vaporizer

## How to Order

**Standard items in bold**

*1st Stage* *2nd Stage*

**CV – 1 A Q 3 1 Q 3 G 1 5 5 5 5 5**

***BODY MATERIAL***
- **1 316L stainless steel**
- **4** Monel®

***PORT CONFIGURATION***
- **A Standard**

***SEAT MATERIAL (1ST STAGE)***
- **A** Tefzel®
- **B** CF Teflon®
- **C** Polyimide
- **H** PCTFE (formerly Kel-F® 81)
- **Q** PEEK™

***FLOW COEFFICIENT (1ST STAGE)***
- **3 0.06**

***CAP ASSEMBLY (1ST STAGE)***
- **1 Tamper-proof, stainless steel**
- **4** Tamper-proof, panel mount, stainless steel

***SEAT MATERIAL (2ND STAGE)***
- **A** Tefzel®
- **B** CF Teflon®
- **C** Polyimide
- **H** PCTFE (formerly Kel-F® 81)
- **Q** PEEK™

***FLOW COEFFICIENT (2ND STAGE)***
- **3 0.06**

***VOLTAGE***
- **5 Steam**

***THERMISTOR TYPE***
- **5 Steam**

***CONTROLLER TYPE***
- **5 Steam**

***HEATER WATTAGE***
- **5 Steam**

***TEMPERATURE RANGE***
- **5 Steam**

***CAP ASSEMBLY (2ND STAGE)***
- **1 Tamper-proof, stainless steel**
- **4** Tamper-proof, panel mount, stainless steel

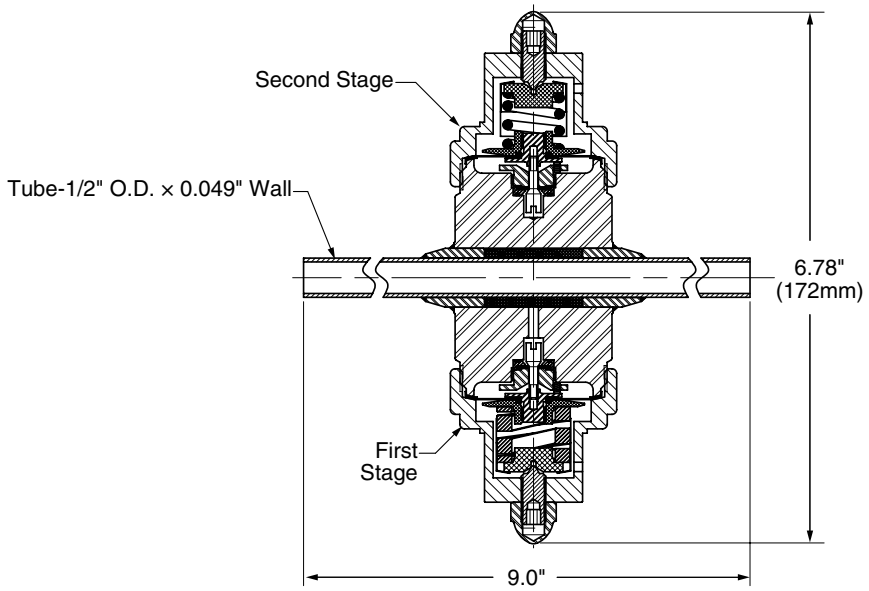
***OUTPUT RANGE (2ND STAGE)***
- **C** 0–10 psig
- **D** 0–25 psig
- **E** 0–50 psig
- **G** 0–100 psig
- **I** 0–250 psig
- **J** 0–500 psig

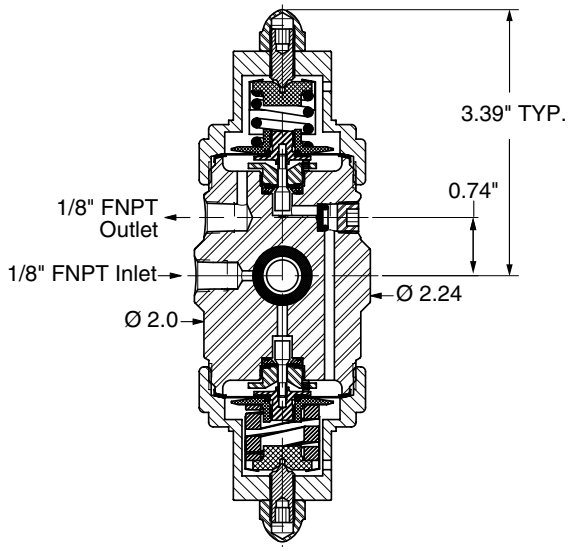
## Maximum Temperature & Operating Inlet Pressures

| SEAT MATERIAL | MAXIMUM PRESSURE | @ | MAXIMUM OPERATING INLET PRESSURE |
|---|---|---|---|
| Tefzel® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
| | 176° F to 300° F (80° C to 148° C) | @ | 1000 psig (6.90 MPa) |
| | 301° F to 380° F (148° C to 193° C) | @ | 400 psig (2.76 MPa) |
| High density Teflon® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
| | 176° F to 300° F (80° C to 148° C) | @ | 1000 psig (6.90 MPa) |
| | 301° F to 380° F (148° C to 193° C) | @ | 400 psig (2.76 MPa) |
| PCTFE (formerly Kel-F®) | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |
| Polyimide | Up to 380° F (193° C) | @ | 6000 psig (41.37 MPa) |
| PEEK™ | Up to 380° F (193° C) | @ | 6000 psig (41.37 MPa) |

# CV Series Cylinder Vaporizer

## *Outline and Mounting Dimensions*



# GO REGULATOR

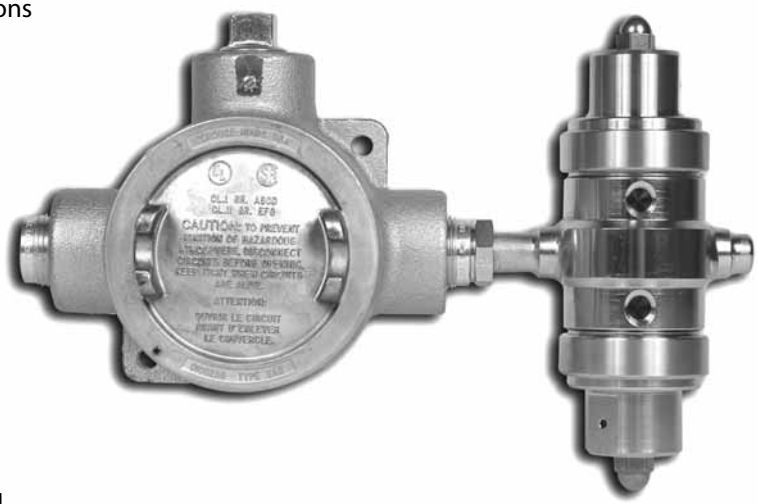
# DHR Series

Electrically Heated Dual Pressure Regulators

## *Introduction*

The Dual Heated Pressure Regulator is designed to supply heat to samples entering instrumentation systems. It can be used to preheat liquids, to prevent condensation of gases or to vaporize liquids prior to gas analysis. Significant space savings can be realized due to the utilization of two discrete regulators that are heated by a common source.

The modular design of the Dual Heated Regulator consists of a heating element and pressure control sections. The pressure control sections are patterned after the time proven design of the PR-1 pressure reducing regulator and provides the same excellent outlet pressure stability. The heat exchanger section is made up of a body and a heating element.



The Dual Heated Pressure Regulators are ATEX approved. The electrical components of this unit are securely housed in a Class A, B, C, D condulet assuring that there is always an adequate flame path between the environment and the controller. Safety considerations can be further enhanced by using the optional TCO (Thermal Cut Out) heater cartridge and proportional controller. These features enable the unit to boast a T3 rating with 150 watts of power.

## Typical Applications

***Analytical process sample conditioning systems:***

- Petrochemical refineries
- Chemical production facilities
- Pilot plants (chemical & petrochemical)
- LNG loading and off-loading points
- Natural gas pipeline sampling

## Features & Benefits

- Optional Hastelloy® C and Monel®
- Electropolished body with better than 25 Ra finish in diaphragm cavity for an optimal sealing surface
- Bubble-tight shutoff
- Available in 120VAC or 240VAC
- Optional TCO heating cartridge and proportional controller

## Technical Data

| | |
|---|---|
| **CONSTRUCTION** | 316L stainless steel |
| **OUTLET PRESSURES** | 0–10, 0–25, 0–50, 0–100, 0–250, and 0–500 psig |
| **OPERATING TEMPERATURE** | up to 380° F (193° C) |
| **HEATING CAPACITY RANGES (IN WATTS)** | 40, 50, 100, and 150 |
| **$C_V$ COEFFICIENTS** | 0.06, 0.025, 0.2 |
| **CERTIFICATIONS** | ATEX Directive 94/9/EC Certification # TRL03ATEX11001X |

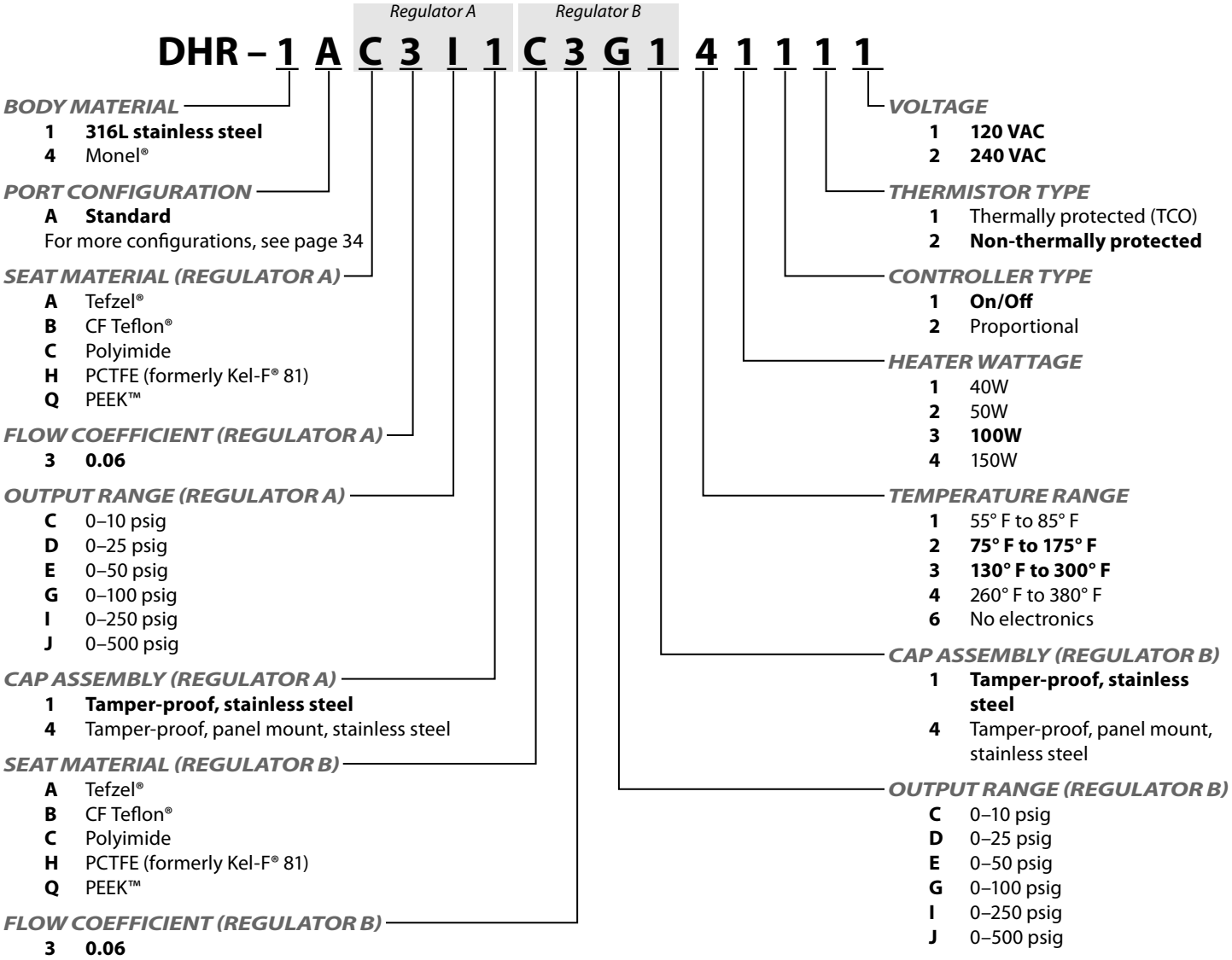
pressure regulators

**GO Regulator**
405 Centura Court • PO Box 4866 (29305) • Spartanburg, SC 29303
Phone (864) 574-7966 Fax (864) 574-5608
www.goreg.com • sales@goreg.com

# DHR Series

## How to Order

**Standard items in bold**

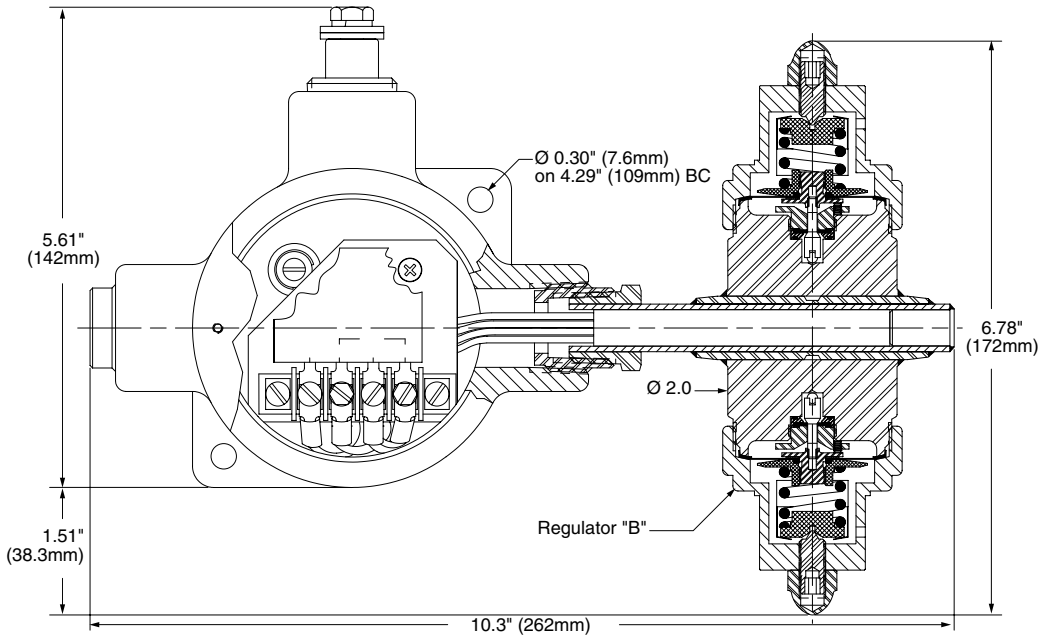


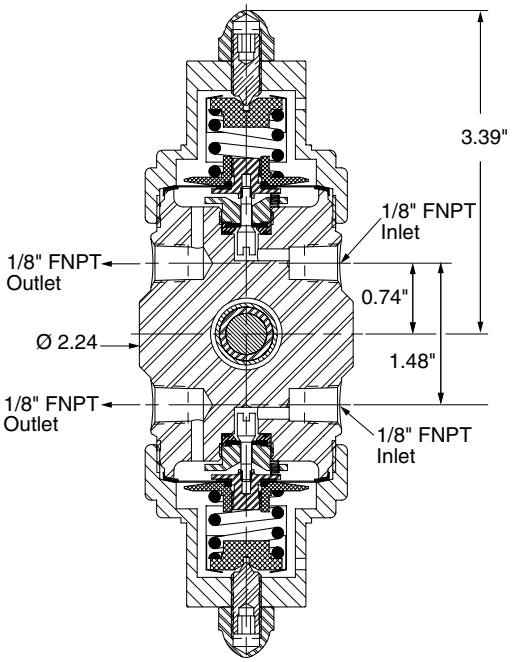

## Maximum Temperature & Operating Inlet Pressures

| SEAT MATERIAL | MAXIMUM PRESSURE | @ | MAXIMUM OPERATING INLET PRESSURE |
|---|---|---|---|
| Tefzel® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
| | 176° F to 300° F (80° C to 148° C) | @ | 1000 psig (6.90 MPa) |
| | 301° F to 380° F (148° C to 193° C) | @ | 400 psig (2.76 MPa) |
| High density Teflon® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
| | 176° F to 300° F (80° C to 148° C) | @ | 1000 psig (6.90 MPa) |
| | 301° F to 380° F (148° C to 193° C) | @ | 400 psig (2.76 MPa) |
| PCTFE (formerly Kel-F®) | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |
| Polyimide | Up to 380° F (193° C) | @ | 6000 psig (41.37 MPa) |
| PEEK™ | Up to 380° F (193° C) | @ | 6000 psig (41.37 MPa) |

# DHR Series

## *Outline and Mounting Dimensions*



# GO REGULATOR

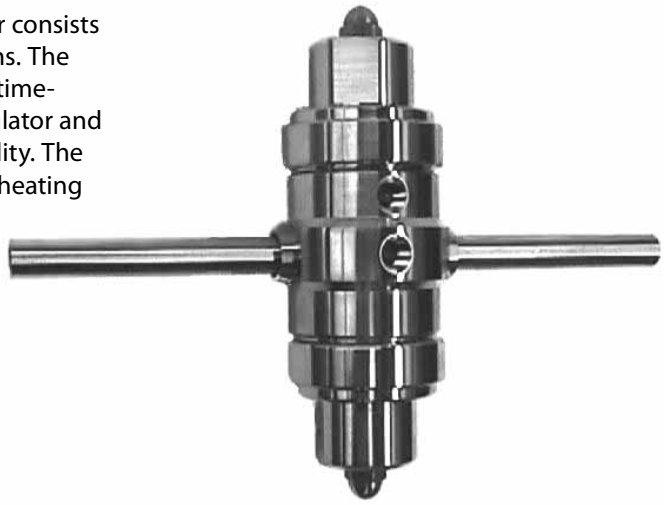
# DHR Series

Steam Heated Dual Pressure Regulators

## *Introduction*

The Dual Heated Pressure Regulator is designed to supply heat to samples entering instrumentation systems. It can be used to preheat liquids, to prevent condensation of gases or to vaporize liquids prior to gas analysis. Significant space savings can be realized due to the utilization of two discrete regulators that are heated by a common source.

The modular design of the Dual Heated Regulator consists of a heating element and pressure control sections. The pressure control sections are patterned after the time-proven design of the PR-1 pressure reducing regulator and provides the same excellent outlet pressure stability. The heat exchanger section is made up a body and a heating element.



## Typical Applications

***Analytical process sample conditioning systems:***

- Petrochemical refineries
- Chemical production facilities
- Pilot plants (chemical & petrochemical)
- LNG loading and off-loading points
- Natural gas pipeline sampling

## Technical Data

| | |
|---|---|
| **CONSTRUCTION** | 316L stainless steel |
| **OUTLET PRESSURES** | 0–10, 0–25, 0–50, 0–100, 0–250, and 0–500 psig |
| **OPERATING TEMPERATURE** | up to 550° F (285° C) |
| **$C_V$ COEFFICIENTS** | 0.06, 0.025, 0.2 |

## Features & Benefits

- Optional Hastelloy® C and Monel®
- Electropolished body with better than 25 Ra finish in diaphragm cavity for an optimal sealing surface
- Bubble-tight shutoff
- Modular pressure control and heat exchanger assemblies for easy maintenance

pressure regulators

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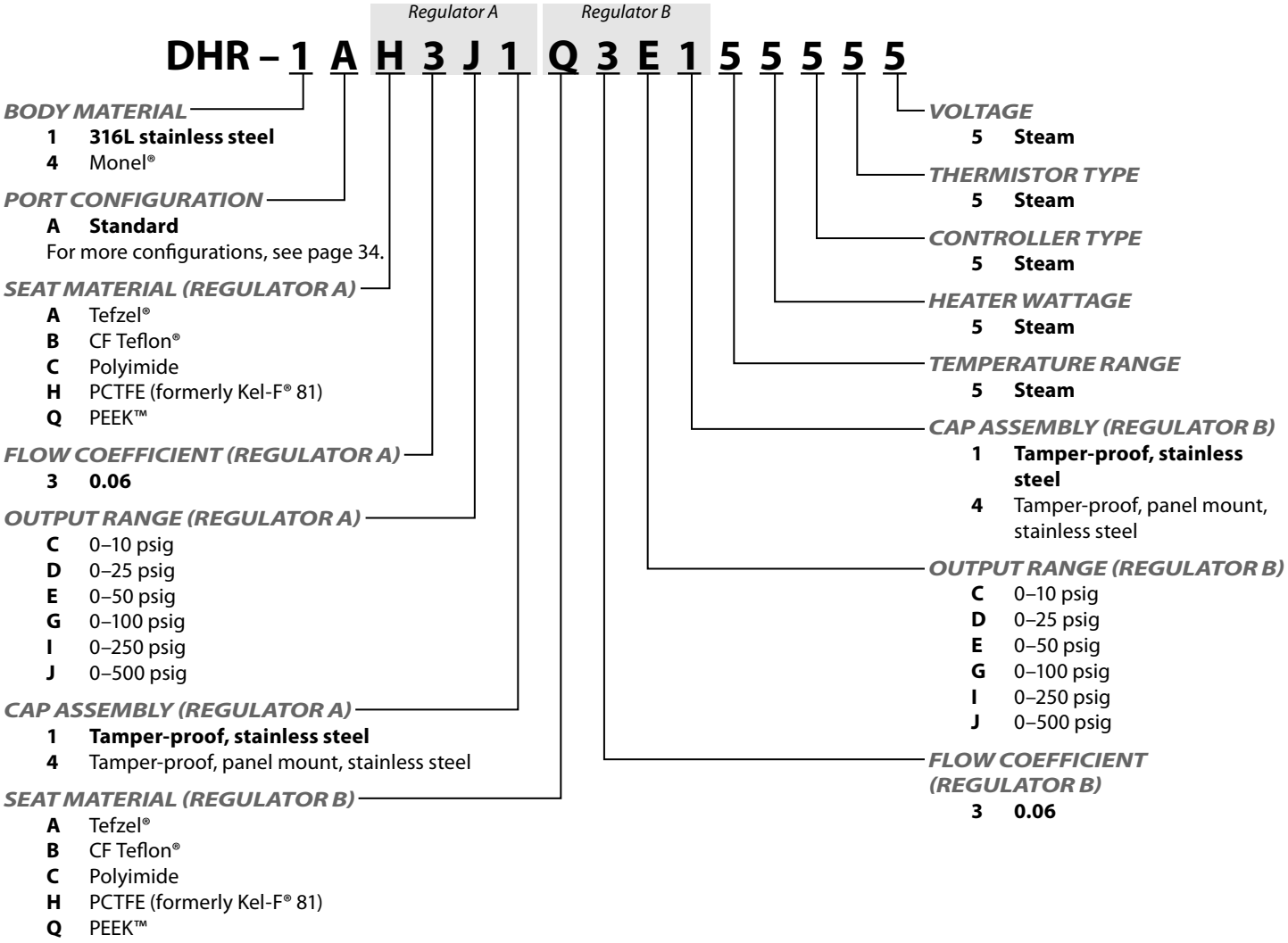
# DHR Series

## How to Order

**Standard items in bold**

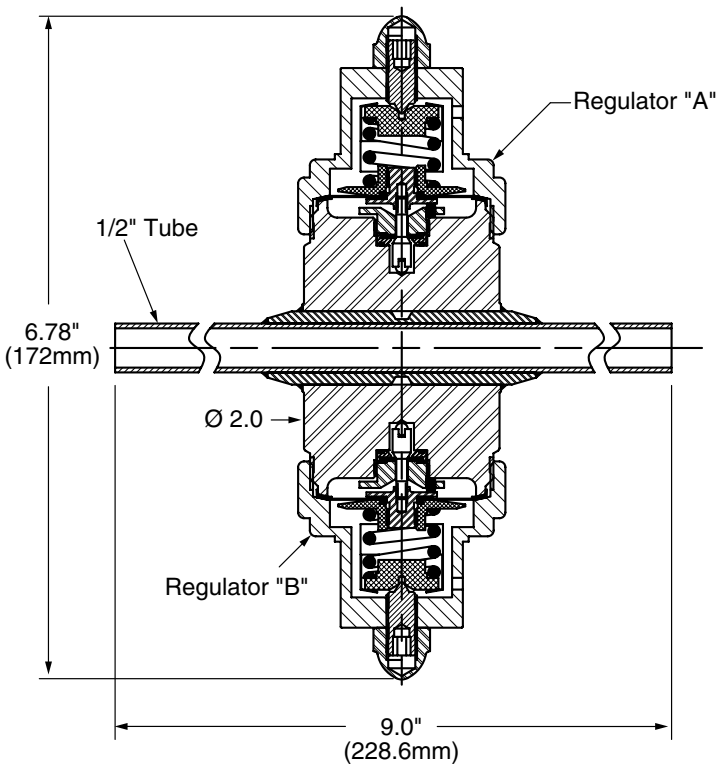


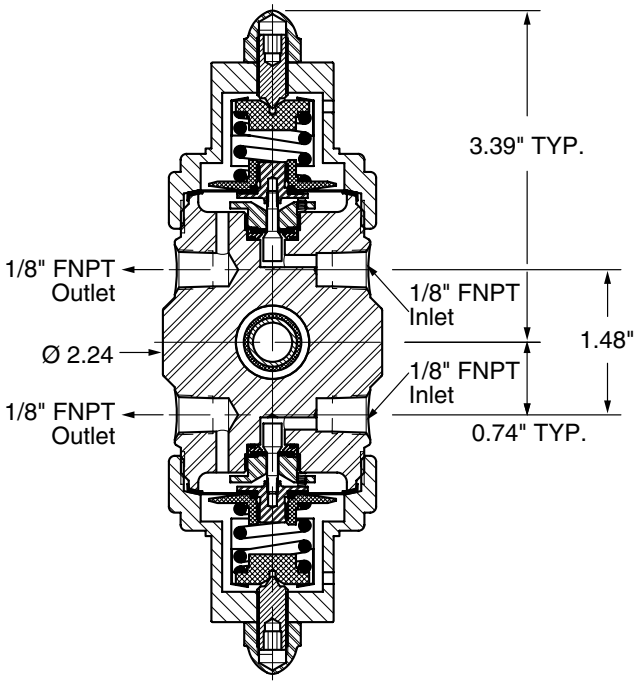

## Maximum Temperature & Operating Inlet Pressures

| SEAT MATERIAL | MAXIMUM PRESSURE | @ | MAXIMUM OPERATING INLET PRESSURE |
|---|---|---|---|
| Tefzel® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
| | 176° F to 300° F (80° C to 148° C) | @ | 1000 psig (6.90 MPa) |
| | 301° F to 380° F (148° C to 193° C) | @ | 400 psig (2.76 MPa) |
| High density Teflon® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
| | 176° F to 300° F (80° C to 148° C) | @ | 1000 psig (6.90 MPa) |
| | 301° F to 380° F (148° C to 193° C) | @ | 400 psig (2.76 MPa) |
| PCTFE (formerly Kel-F®) | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |
| Polyimide | Up to 380° F (193° C) | @ | 6000 psig (41.37 MPa) |
| PEEK™ | Up to 380° F (193° C) | @ | 6000 psig (41.37 MPa) |

# DHR Series

## *Outline and Mounting Dimensions*



# GO REGULATOR

# MV-1 Series

Miniature Vaporizing Pressure Regulator

## *Introduction*

The MV-1 Series Miniature Vaporizing Regulator is one of the smallest envelopes in the industry. Weighing in at a scant 0.86 pounds, the MV-1 is designed to supply heat to samples entering instrumentation systems where space is at a premium and quality cannot be compromised. It can be used to preheat liquids, to prevent condensation of gases or to vaporize liquids prior to gas analysis.

The pressure control section of the MV-1 is patterned after the time-tested design of our CPR-1 and provides the same excellent outlet pressure stability. The heating plate utilizes GO Regulator's unique heating element and incorporates an optional Thermal Cutout Device (TCO). This device prevents any exposed surface of the unit from exceeding 200° C under normal or fault conditions and is exclusive to GO Regulator's line of electrically heated vaporizing regulators. Offered in both 12 VDC and 24 VDC, the MV-1 Series offers the utmost in unequalled system safety and performance.

## Typical Applications

***Analytical process sample conditioning systems:***

- Petrochemical refineries
- Chemical production facilities
- Pilot plants (chemical & petrochemical)
- Portable low voltage analyzers

## Technical Data

| | |
|---|---|
| **CONSTRUCTION** | 316L stainless steel |
| **OUTLET PRESSURES** | 0–10, 0–25, 0–50, 0–100, 0–250, and 0–500 psig |
| **OPERATING TEMPERATURE** | up to 380° F (193° C) |
| **HEATING CAPACITY RANGES (IN WATTS)** | 40 and 100 |

## Features & Benefits

- Electro polished body with better than 25 Ra finish in diaphragm cavity for an optimal sealing surface
- Bubble-tight shutoff
- Unique *Spiro-Wind* heating element provides exceptionally even heating
- Available in 12 VDC and 24 VDC
- Optional TCO heating cartridge and proportional controller

pressure regulators

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Phone (864) 574-7966 Fax (864) 574-5608
www.goreg.com • sales@goreg.com

# MV-1 Series

## How to Order

**Standard items in bold**

**MV – 1 A B 2 3 B 3 E H D 1**

***BODY MATERIAL***
- **1 316L stainless steel**
- **4** Monel®

***PORT CONFIGURATION***
- **A Standard**

For more configurations, see page 33

***PORT TYPE***
- **0 ⅛″ FNPT (all ports)**
- **A** 1⁄16″ FNPT (all ports)
- **B** ⅛″ FNPT inlets; 1⁄16″ FNPT outlets

***TEMPERATURE RANGE***
- **1** 55° F to 85° F
- **2 75° F to 175° F**
- **3 130° F to 300° F**
- **4** 260° F to 380° F (Non TCO units only)

***HEATER WATTAGE***
- **1 40W**
- **2 40W with thermal cutout (TCO)**
- **3** 100W
- **4** 100W with thermal cutout (TCO)

***HEATER VOLTAGE***
- **B 12 VDC**
- **C 24 VDC**

***CAP STYLE***
- **1 Tamper-proof, stainless steel**
- **4** Tamper-proof, panel mount, stainless steel

***CAVITY O-RING MATERIAL***
- **D Viton®**
- **I** Teflon®

***SEAT MATERIAL***
- **A** Tefzel®
- **B** CF Teflon®
- **C** Polyimide
- **H** PCTFE (formerly Kel-F® 81)
- **Q** PEEK™

***OUTPUT RANGE***
- **C** 0–10 psig
- **D** 0–25 psig
- **E** 0–50 psig
- **G** 0–100 psig
- **I** 0–250 psig
- **J** 0–500 psig

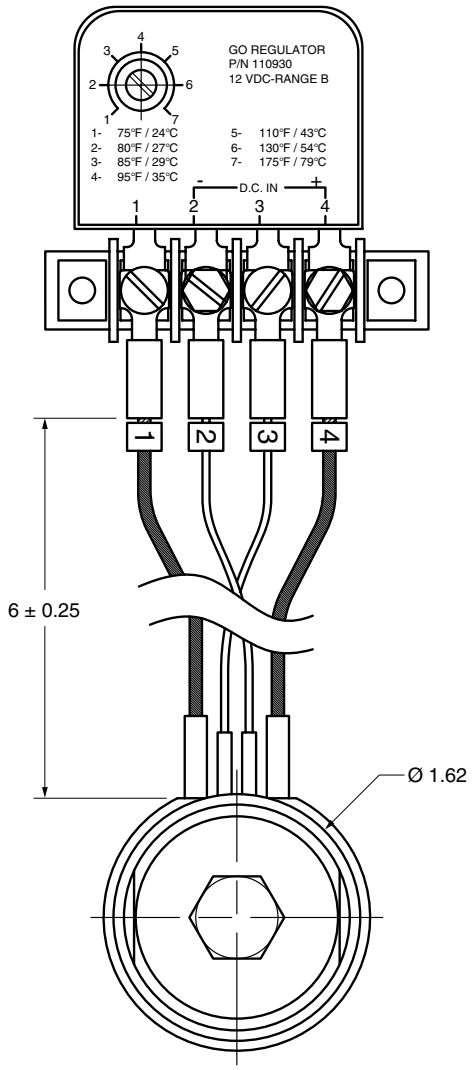
***FLOW COEFFICIENT (Cv)***
- **3 0.06**
- **C** 0.025

## Maximum Temperature & Operating Inlet Pressures

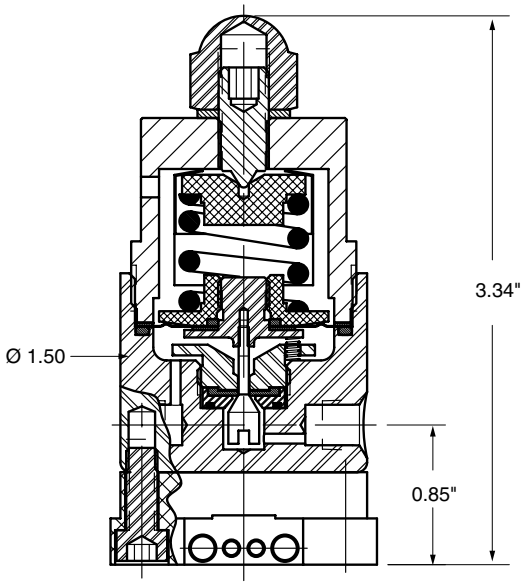
| SEAT MATERIAL | MAXIMUM PRESSURE | @ | MAXIMUM OPERATING INLET PRESSURE |
|---|---|---|---|
| Tefzel® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
| | 176° F to 300° F (80° C to 148° C) | @ | 1000 psig (6.90 MPa) |
| | 301° F to 380° F (148° C to 193° C) | @ | 400 psig (2.76 MPa) |
| High density Teflon® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
| | 176° F to 300° F (80° C to 148° C) | @ | 1000 psig (6.90 MPa) |
| | 301° F to 380° F (148° C to 193° C) | @ | 400 psig (2.76 MPa) |
| PCTFE (formerly Kel-F®) | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |
| Polyimide | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |
| PEEK™ | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |

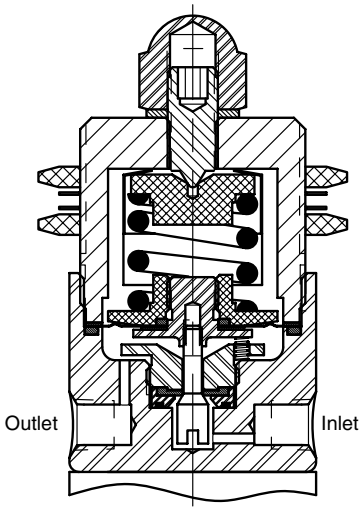
# MV-1 Series

## *Outline and Mounting Dimensions*




Weight = 0.86lbs




0.06 Cv and Panel Mount Options

Panel mount option requires
1.39 (35.3mm) minimum
diameter panel cut out

# GO REGULATOR

# HXR Series

Insitu Temperature Compensating Pressure Regulator

## *Introduction*

The HXR Series Insitu pressure regulator was designed to offset the Joules-Thompson temperature effect. This effect is the cooling that occurs during a pressure drop as a gas passes through an orifice. With HXR Series, the cooling is offset by placing the pressure regulating orifice at the tip of the probe assembly in the process line. As a result, the pressure reduced sample gas passes through a section of the probe that has heat exchange fins. As the cooled sample gas flows through this section of the probe assembly, it is reheated by heat picked up from the warmer high pressure process gas flowing around the outside of the probe assembly, thus returning the sample to the original process line working temperature and also preventing the condensation of liquids in the sample.

## Typical Applications

***Analytical process sample conditioning systems:***

- Gas pipelines

## Technical Data

| | |
|---|---|
| **CONSTRUCTION** | 316L stainless steel |
| **OUTLET PRESSURES** | 0–10, 0–25, 0–50, 0–100, 0–250, and 0–500 psig |
| **MAX. INLET WORKING PRESSURE AT MAX. TEMP.** | 3600 psig |
| **$C_V$ COEFFICIENTS** | 0.025 |

## Features & Benefits

- Prevents liquid carry over
- Insitu design allows for easy installation directly into process line
- Ensures a more representative and accurate sample analysis of process streams
- Electropolished body with better than 25 Ra finish in diaphragm cavity
- Bubble-tight shutoff
- Available in ½″, ¾″, and 1″ MNPT probe gland connections
- 70 micron filter
- Port sizes & configuration ¼″ FNPT: 3 low pressure ports situated 90° apart
- Optional probe lengths available
- Optional gauge and relief valve

pressure regulators

**GO Regulator**
405 Centura Court • PO Box 4866 (29305) • Spartanburg, SC 29303
Phone (864) 574-7966 Fax (864) 574-5608
www.goreg.com • sales@goreg.com

# HXR Series

## How to Order

**Standard items in bold**

**HXR – 1 1 1 C 1 D 1 6 1 1**

***BODY MATERIAL***
- **1** **316L stainless steel**

***OPTIONAL PORTING TYPES***
- **1** **¼″ FNPT**

***SURFACE FINISH OF DIAPHRAGM CAVITY***
- **1** **< 25 Ra**

***SEAT MATERIAL***
- **A** Tefzel®
- **B** CF Teflon®
- **C** Polyimide
- **H** PCTFE (formerly Kel-F® 81)
- **Q** PEEK™

***MOUNTING THREAD***
- **1** ¾″ MNPT

***INSERTION LENGTH***
- **0** No extension (3.75″ ins. length)
- **1** Short extension (8.05″ ins. length)
- **2** Long extension (11.05″ ins. length)

***CAP ASSEMBLY***
- **1** **Stainless steel**

***DIAPHRAGM LINER / BACKING***
- **6** **Tefzel® ring / stainless steel**

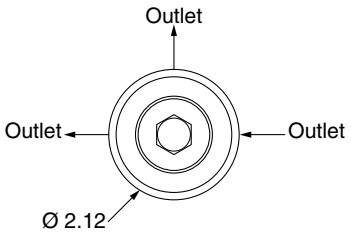
***DIAPHRAGM TYPE***
- **1** **Standard**

***OUTLET RANGE***
- **C** 0–10 psig
- **D** 0–25 psig
- **E** 0–50 psig
- **G** 0–100 psig
- **I** 0–250 psig
- **J** 0–500 psig

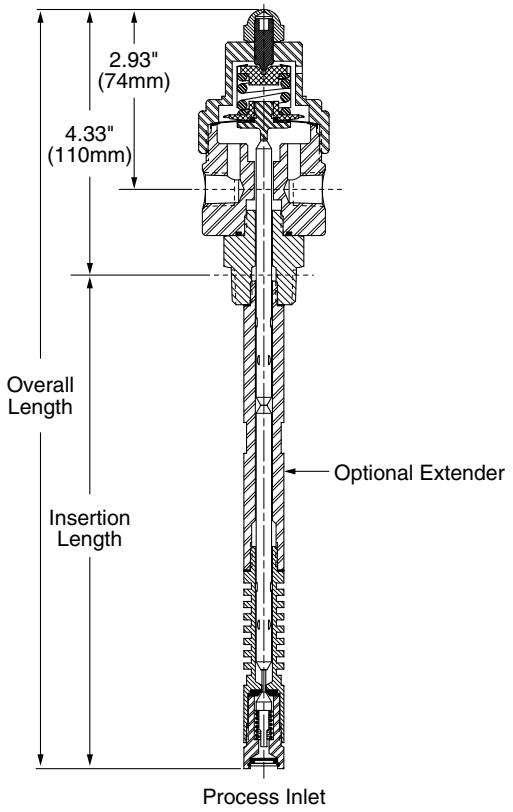
## Maximum Temperature & Operating Inlet Pressures

| SEAT MATERIAL | MAXIMUM TEMPERATURE | @ | MAXIMUM OPERATING INLET PRESSURE |
|---|---|---|---|
| Tefzel® | 150° F (66° C) | @ | 3600 psig (20.68 MPa) |
| High density Teflon® | 150° F (66° C) | @ | 3600 psig (20.68 MPa) |
| PCTFE (formerly Kel-F® 81) | 175° F (80° C) | @ | 3600 psig (20.68 MPa) |
| Polyimide | 500° F (260° C) | @ | 3600 psig (20.68 MPa) |
| PEEK™ | 500° F (260° C) | @ | 3600 psig (20.68 MPa) |

## Outline and Mounting Dimensions




| EXTENDER | INSERTION LENGTH | OVERALL LENGTH |
|---|---|---|
| None (–0) | 3.7″ | 8.1″ |
| Short (–1) | 8.0″ | 12.4″ |
| Long (–2) | 11.0″ | 15.4″ |



# GO REGULATOR

# LNG Series

Sample Vaporizer

## *Introduction*

The heart of the LNG Vaporizer Assembly is the well-known HPR-2 Series heated pressure control valve. This unit has been used in many successful applications requiring heating of a process stream sample prior to analysis to prevent freeze up or for vaporization. The HPR-2 is a modularized unit consisting of a heated section and pressure control section. A field demonstration has now shown this vaporizer assembly to be serviceable in the vaporization of LNG product for analytical purposes and that homogeneous samples can be obtained under steady state operating conditions.

The HPR-2 pressure control valve is contained in a painted, insulated sheet metal enclosure and combined with an insulated input line plus a pressure gauge and relief valve. The heater section of the electric version is equipped with a thermostat for temperature control and is constructed to meet standard Division 1 Electrical Code requirements.

## Typical Applications

- LNG loading and off-loading points
- Petrochemical refineries
- Chemical production facilities
- Natural gas pipelines

## Technical Data – Steam Heated

| | |
|---|---|
| **CONSTRUCTION** | 316L stainless steel |
| **OUTLET PRESSURES** | 0–10, 0–25, 0–50, 0–100, 0–250, and 0–500 psig |
| **INLET PRESSURE** | up to 6000 psig at 380° F (193° C) |
| **OPERATING TEMPERATURE** | up to 550° F (285° C) |
| **$C_V$ COEFFICIENTS** | 0.06, 0.025, 0.2 |
| **INLET CONNECTIONS** | ⅛″ FNPT |
| **OUTLET CONNECTIONS** | ¼″ FNPT |

## Features & Benefits

- Optional Hastelloy® C and Monel®
- Electropolished body with better than 25 Ra finish in diaphragm cavity for an optimal sealing surface
- Bubble-tight shutoff
- Modular pressure control and heat exchanger assemblies for easy maintenance
- Unique spiral wrapped heat exchange element provides up to 100 square inches of heat transfer area.
- Available in 120VAC or 240VAC and steam-heated
- Optional TCO heating cartridge and proportional controller

## Technical Data – Electrically Heated

| | |
|---|---|
| **CONSTRUCTION** | 316L stainless steel |
| **OUTLET PRESSURES** | 0–10, 0–25, 0–50, 0–100, 0–250, and 0–500 psig |
| **INLET PRESSURE** | up to 6000 psig at 380° F (193° C) |
| **HEATING CAPACITY RANGES (IN WATTS)** | 40, 50, 100, and 150 |
| **$C_V$ COEFFICIENTS** | 0.06, 0.025, 0.2 |
| **CERTIFICATIONS** | CSA certification # LR-82566-5<br>ATEX Directive 94/9/EC<br>Certification # TRL03ATEX11001X |

pressure regulators

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# LNG Series

## How to Order

**Standard items in bold**

**10283 C 2 3 3 1 2 2**

***BASIC PART NUMBER***
- **102830** 0–10 psig electronically heated
- **102831** 0–25 psig electroncially heated
- **102832** 0–50 psig electronically heated
- **102833** 0–100 psig electronically heated
- **102834** 0–250 psig electronically heated
- **102835** 0–500 psig electroncially heated
- **109551** 0–25 psig steam heated
- **109552** 0–50 psig steam heated
- **109553** 0–100 psig steam heated
- **109554** 0–250 psig steam heated
- **109555** 0–500 psig steam heated

***SEAT MATERIAL***
- **A** Tefzel®
- **B** CF Teflon®
- **C** Polyimide
- **Q** PEEK™

***WATTAGE***
- **1** 40 watts
- **2** 50 watts
- **3** **100 watts**
- **4** 150 watts
- **5** Steam heated

***THERMISTOR TYPE***
- **1** Thermally protected (TCO)
- **2** **Non-thermally protected**
- **5** **Steam**

***CONTROLLER TYPE***
- **1** **On/Off**
- **2** Proportional
- **5** **Steam**

***CONFIGURATION***
- **1** **Standard enclosure (painted steel)**
- **2** Stainless steel enclosure
- **3** Standard enclosure, all ¼˝ tube
- **4** Stainless steel enclosure, all ¼˝ tube
- **5** Standard enclosure, ¼˝ tube bulkhead
- **6** Stainless steel enclosure, ¼˝ tube bulkhead

***HEATER BLOCK TYPE***
- **1** **Steam**
- **2** Steam, HPR-2XW
- **3** **120 VAC**
- **4** **240 VAC**
- **6** 120 VAC, HPR-2XW
- **7** 240 VAC, HPR-2XW

***TEMPERATURE RANGE***
- **1** 55° F to 85° F
- **2** **75° F to 175° F**
- **3** **130° F to 300° F**
- **4** 260° F to 380° F
- **5** **Steam heated**

## Maximum Temperature & Operating Inlet Pressures

**HPR-2 Electric or Steam 2-piece Assembly**
(Heater block and regulator body separate)

| SEAT MATERIAL | MAXIMUM PRESSURE | @ | MAXIMUM OPERATING INLET PRESSURE |
|---|---|---|---|
| Tefzel® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
| | 176° F to 300° F (80° C to 148° C) | @ | 1000 psig (6.90 MPa) |
| | 301° F to 380° F (148° C to 193° C) | @ | 400 psig (2.76 MPa) |
| High density Teflon® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
| | 176° F to 300° F (80° C to 148° C) | @ | 1000 psig (6.90 MPa) |
| | 301° F to 380° F (148° C to 193° C) | @ | 400 psig (2.76 MPa) |
| PCTFE (formerly Kel-F®) | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |
| Polyimide | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |
| PEEK™ | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |

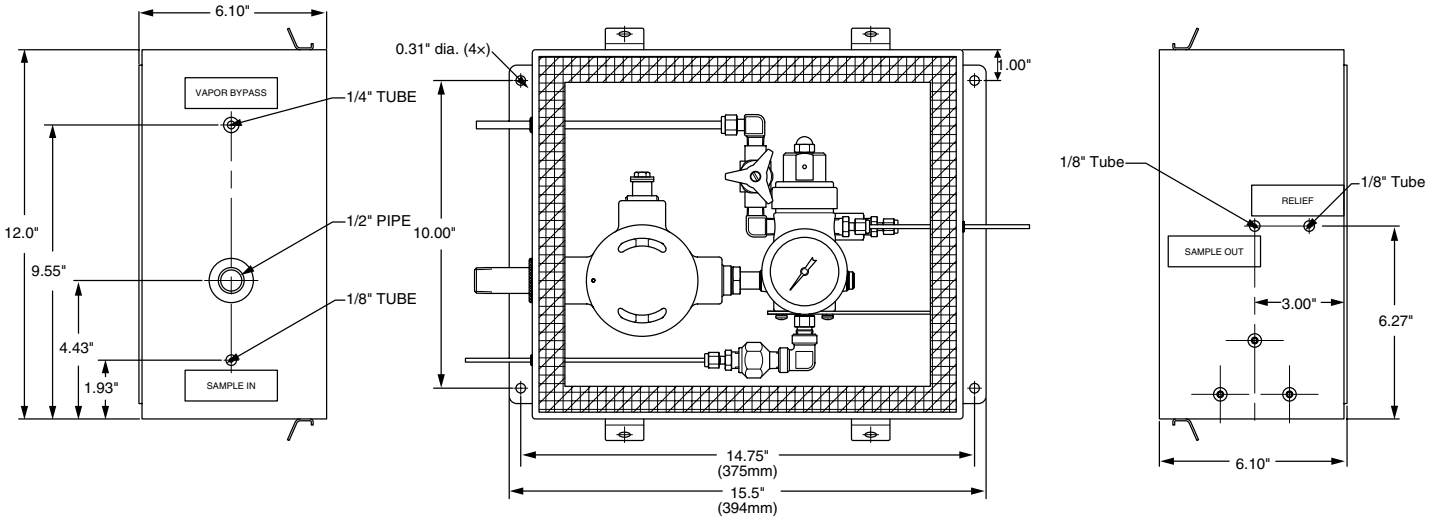
**HPR-2 Electric or Steam 1-piece Assembly**
(Integral heater block and regulator)

| SEAT MATERIAL | MAXIMUM PRESSURE | @ | MAXIMUM OPERATING INLET PRESSURE |
|---|---|---|---|
| Tefzel® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
| | 176° F to 300° F (80° C to 148° C) | @ | 1000 psig (6.90 MPa) |
| | 301° F to 380° F (148° C to 193° C) | @ | 400 psig (2.76 MPa) |
| High density Teflon® | Up to 175° F (80° C) | @ | 3600 psig (24.82 MPa) |
| | 176° F to 300° F (80° C to 148° C) | @ | 1000 psig (6.90 MPa) |
| | 301° F to 380° F (148° C to 193° C) | @ | 400 psig (2.76 MPa) |
| PCTFE (formerly Kel-F®) | Up to 380° F (193° C) | @ | 3600 psig (24.82 MPa) |
| Polyimide | Up to 380° F (193° C) | @ | 6000 psig (24.82 MPa) |
| PEEK™ | Up to 380° F (193° C) | @ | 6000 psig (24.82 MPa) |

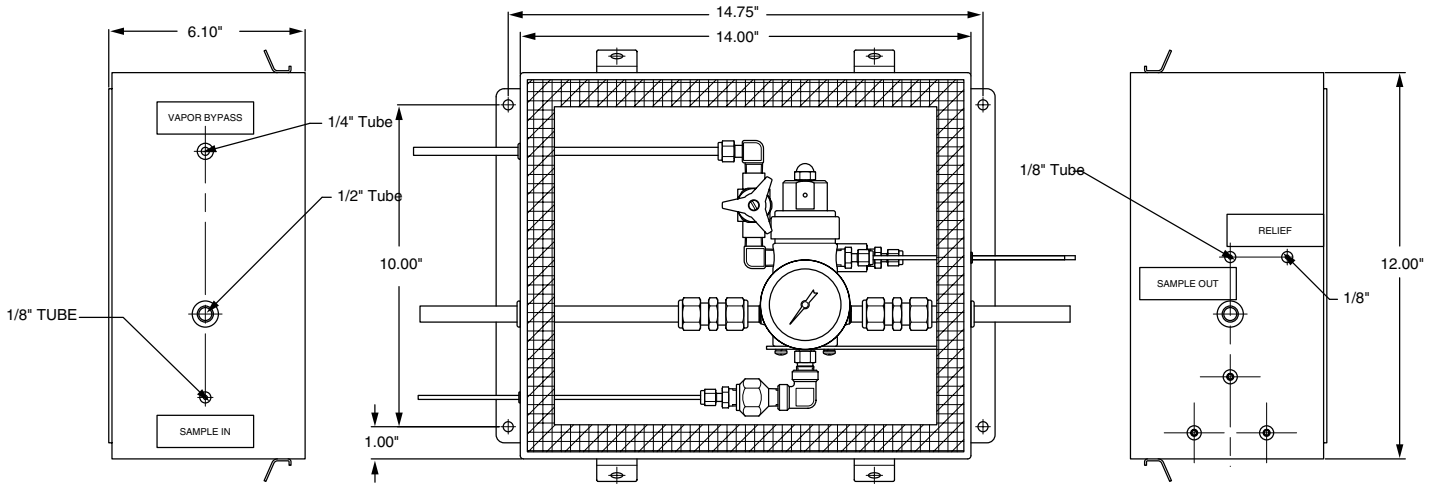
# LNG Series

## *Outline & Mounting Dimensions*

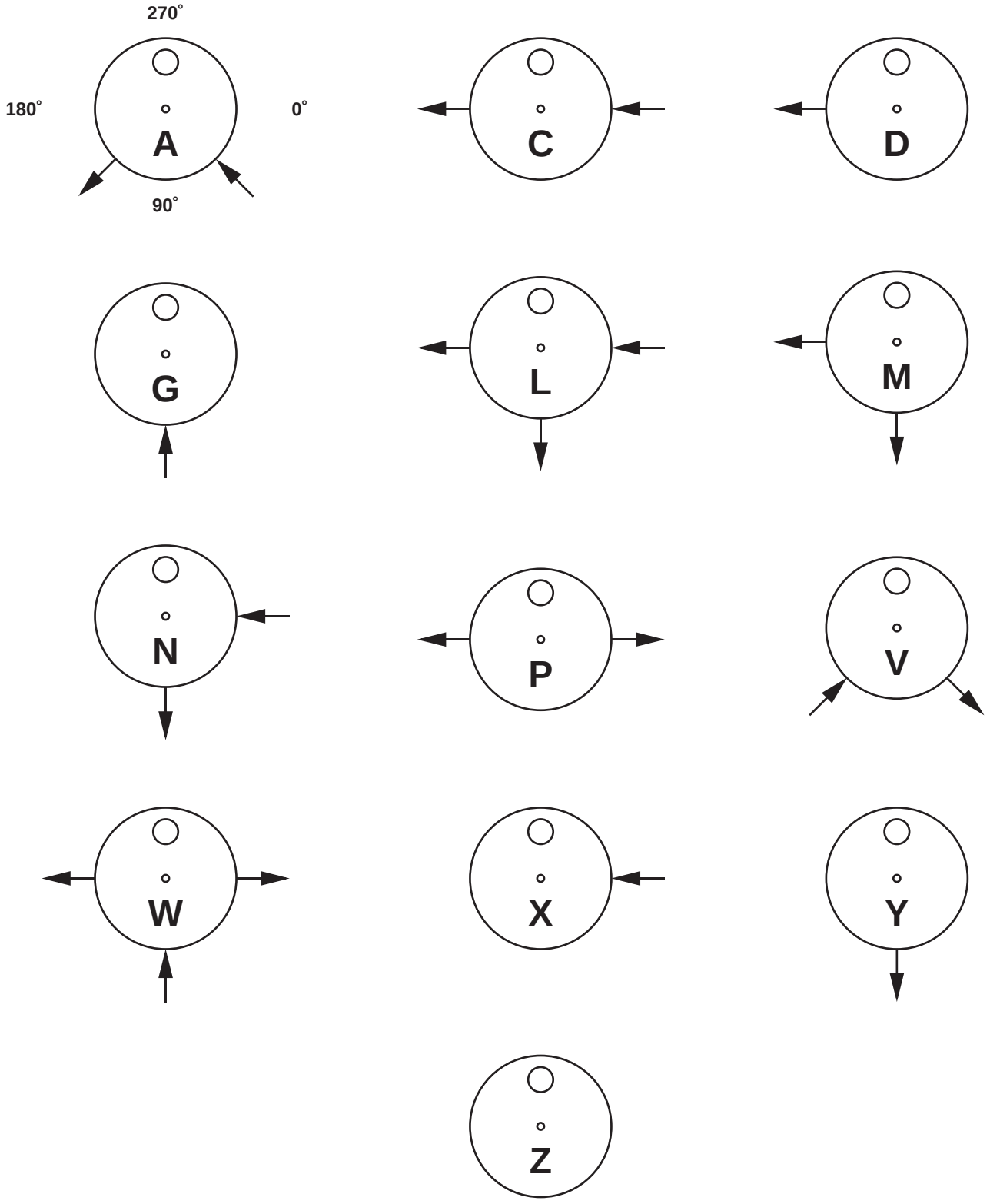
### Electrical




### Steam

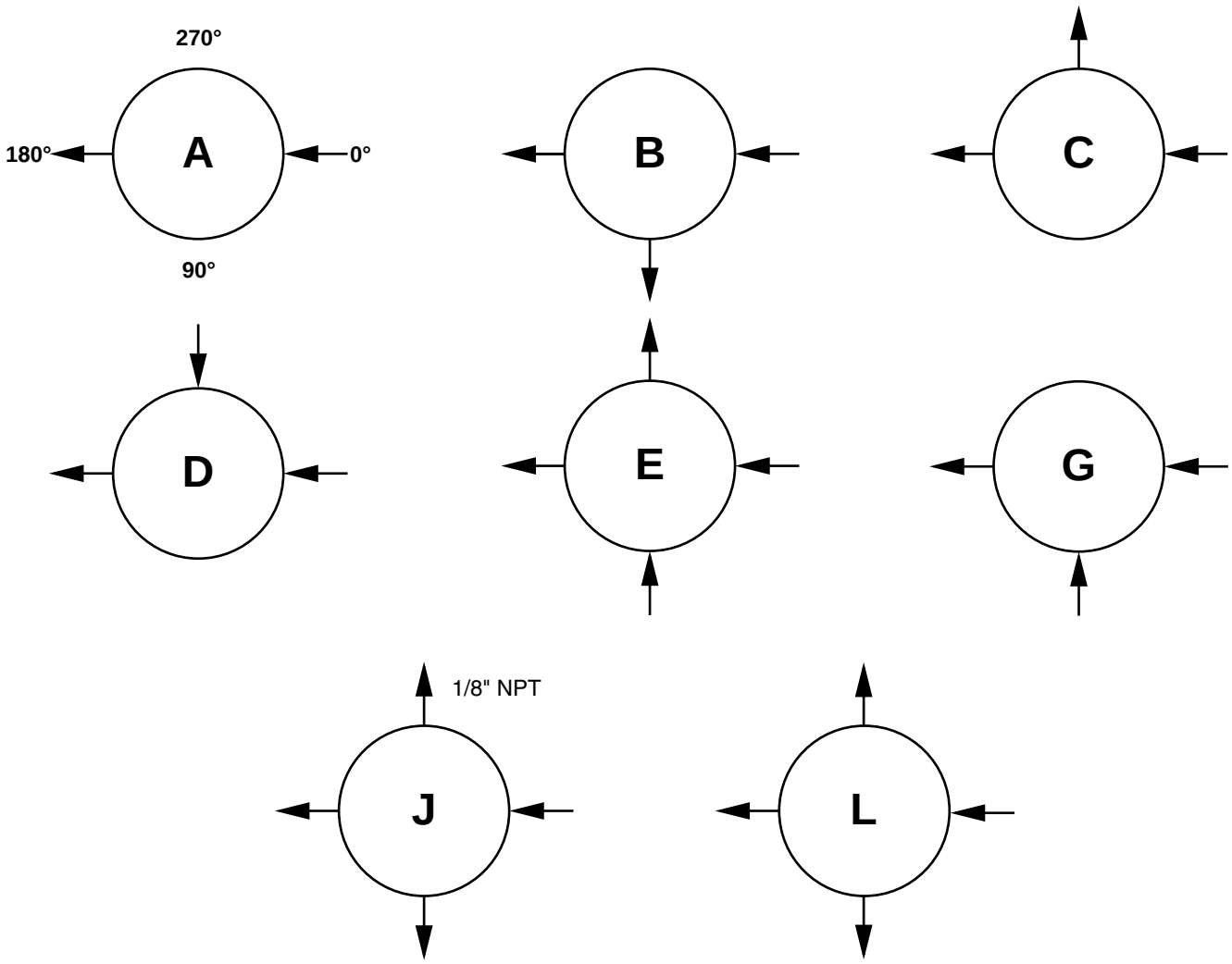


# Porting Configurations (Pressure Regulator Body) for HPR-2 Steam & Electric and HPR-2XW Steam & Electric Series



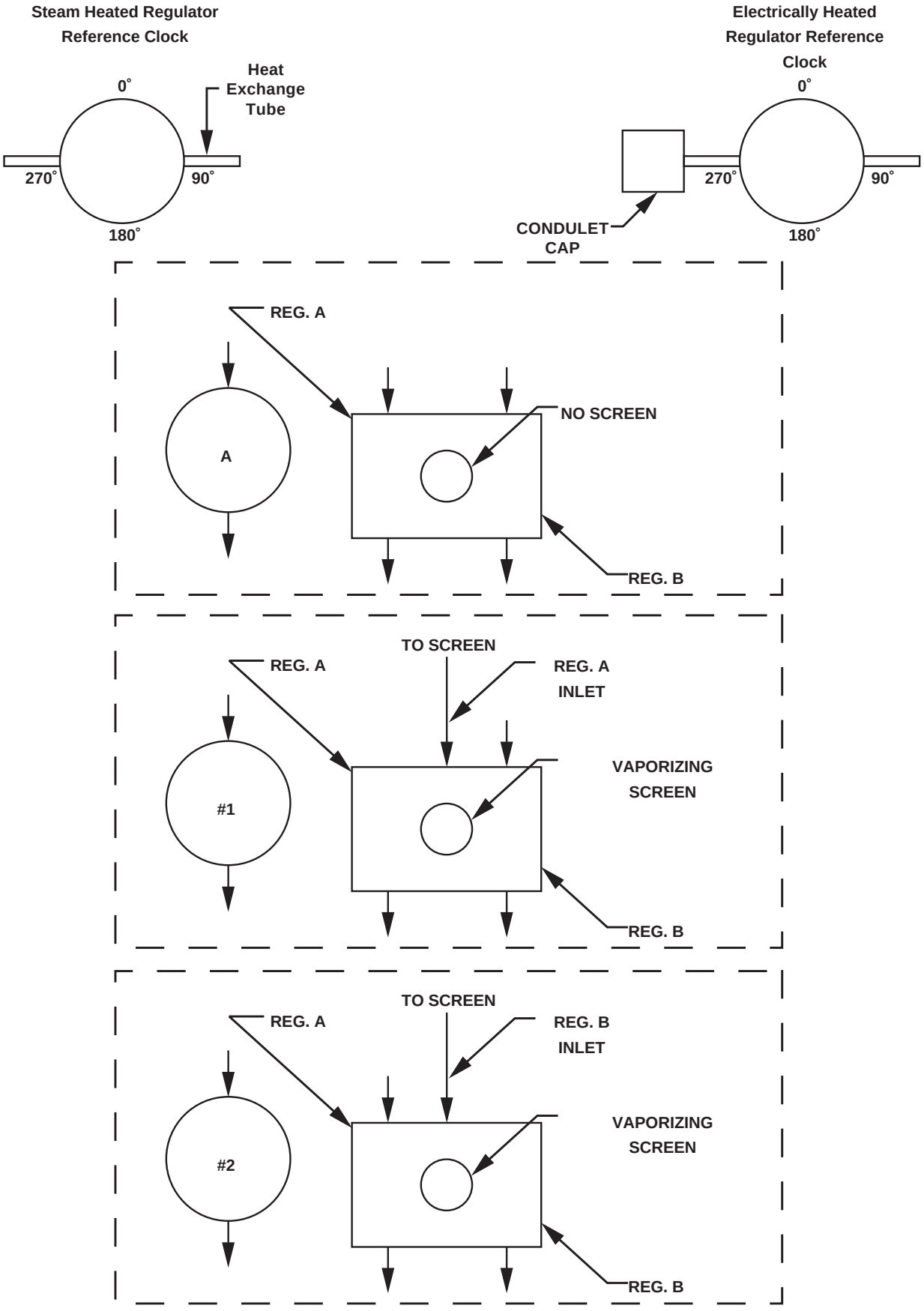

Location of ports from top view. Arrow pointing toward body is inlet. Arrow pointing away from body is outlet.

# Porting Configurations for MV-1 Series



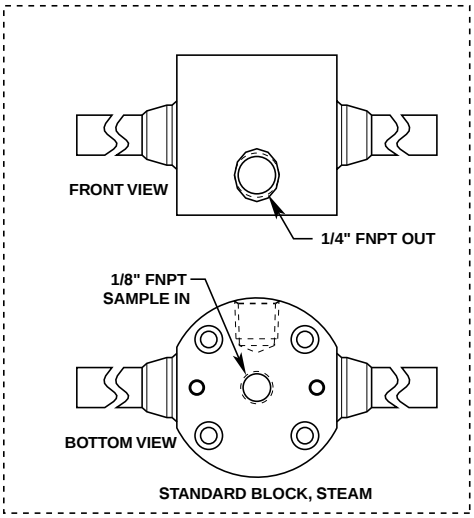

Location of ports from top view. Arrow pointing toward body is inlet. Arrow pointing away from body is outlet.

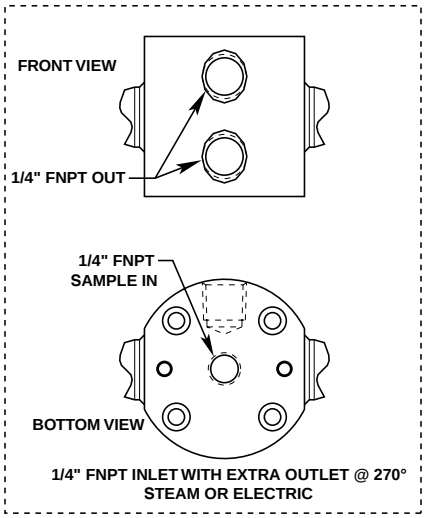
# Porting Configurations for DHR Steam & Electric Series

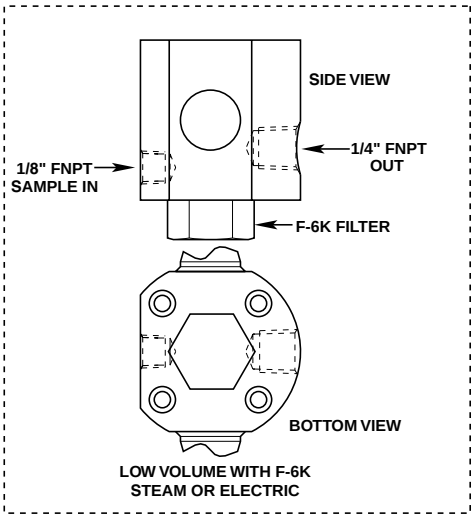


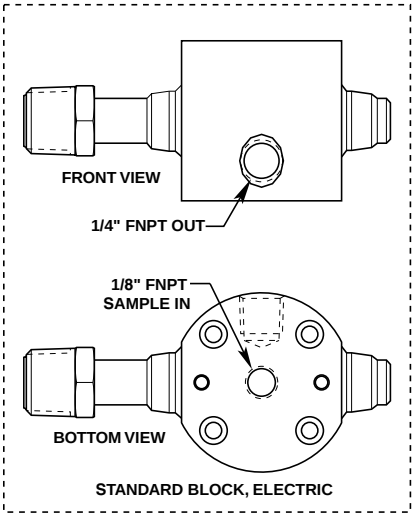

Location of ports from to of regulator "A". Arrow pointing toward body is inlet. Arrow pointing away from body is outlet.

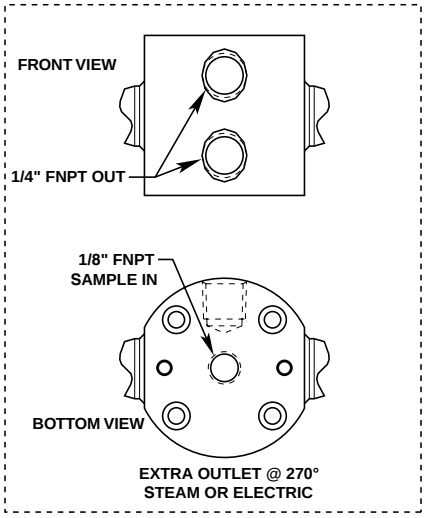
# Heater Block Configurations
# for HPR-2 Steam & Electric and HPR-2XW Steam & Electric Series

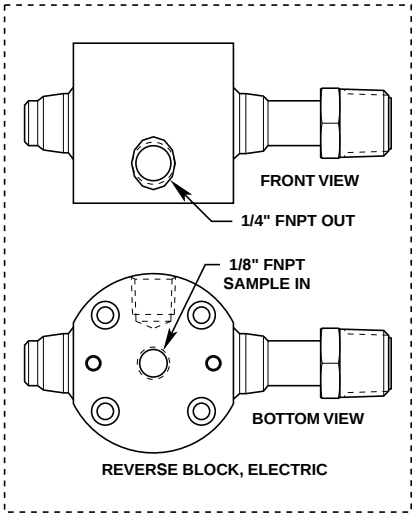


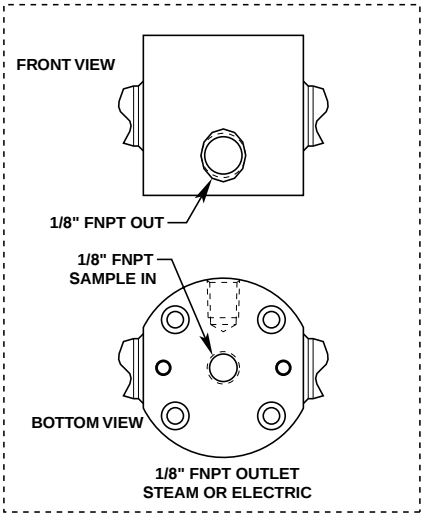



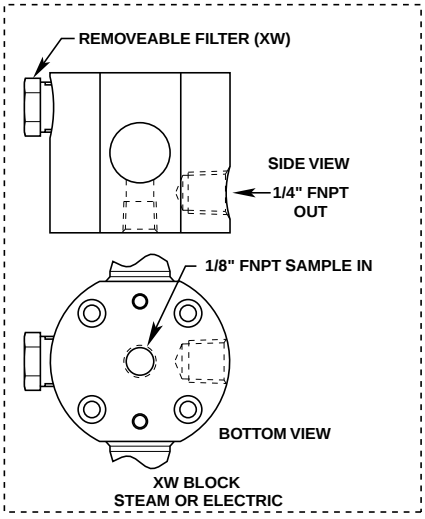



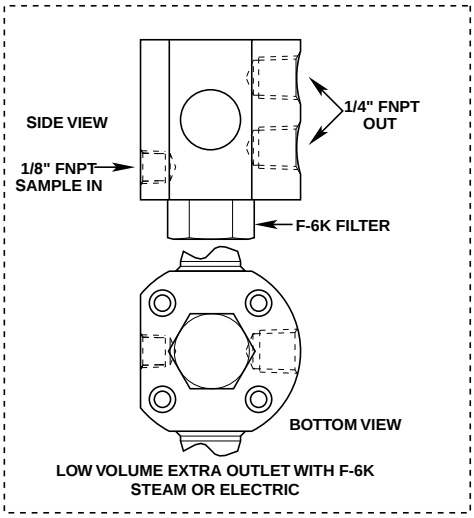



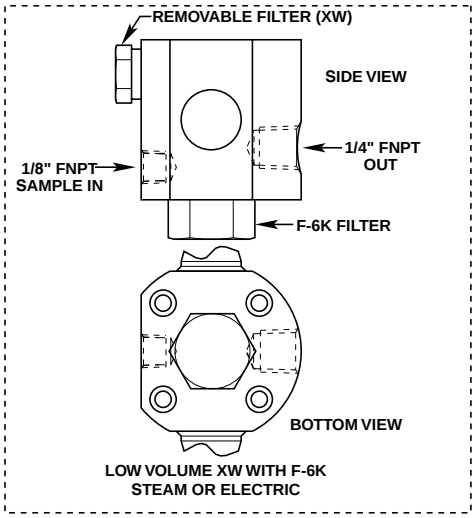



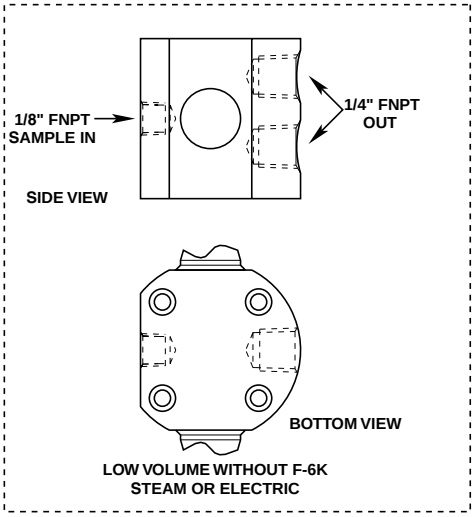





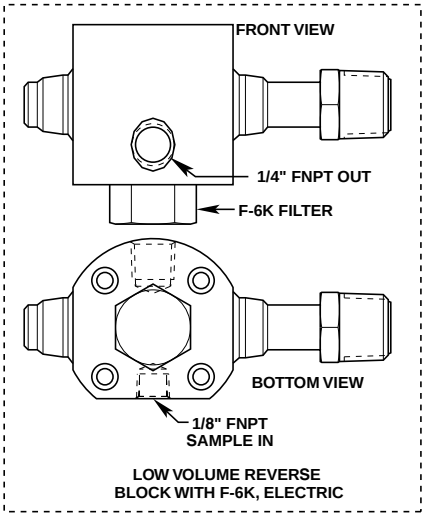

LOW VOLUME EXTRA OUTLET WITH F-6K
STEAM OR ELECTRIC




LOW VOLUME XW WITH F-6K
STEAM OR ELECTRIC




LOW VOLUME WITHOUT F-6K
STEAM OR ELECTRIC




LOW VOLUME REVERSE
BLOCK WITH F-6K, ELECTRIC

## *For Your Safety*

It is solely the responsibility of the system designer and user to select products suitable for their specific application requirements and to ensure proper installation, operation, and maintenance of these products. Material compatibility, product ratings and application details should be considered in the selection. Improper selection or use of products described herein can cause personal injury or property damage.

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Fax (909) 923-2550

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